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Instruction for students with disabilities in the general education classroom: special educators' perceptions of co-teaching and quality of instructional practices

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BOSTON UNIVERSITY
WHEELLOCK COLLEGE OF EDUCATION & HUMAN DEVELOPMENT

Dissertation

**INSTRUCTION FOR STUDENTS WITH DISABILITIES IN THE GENERAL
EDUCATION CLASSROOM: SPECIAL EDUCATORS' PERCEPTIONS OF CO-
TEACHING AND QUALITY OF INSTRUCTIONAL PRACTICES**

by

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Submitted in partial fulfillment of the
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Doctor of Education

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DEDICATION

This dissertation is dedicated to the special education teachers who selflessly gave their time to participate in our study. It has been a privilege to spend time in your classrooms and hear your stories. I will forever be inspired by the dedication, passion, and love you

have for what you do.

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ABSTRACT

In schools across the United States, co-teaching is a commonly used model for providing instruction for students with disabilities in inclusive classrooms. Co-teaching is an instructional arrangement in which a general education teacher and special education teacher work collaboratively to provide instruction to students with and without disabilities in the general education classroom. While the use of co-teaching is reported to be widespread, there is little empirical evidence that it is an effective means of providing instruction for students with disabilities. Further information is needed about the instructional practices educators use in co-taught classrooms as well as the factors that influence this instruction.

This mixed-methods, multiple case study analyzed the instructional actions of eight special education teachers to examine the extent to which they implement instructional practices recognized in the field of special education as evidence-based in co-taught English Language Arts and mathematics classrooms at the middle school level. In order to more fully understand the instructional practices observed in these classrooms, this study also explored special education teachers' perceptions of the factors that

influence their roles and the instructional practices used in these settings. Data were collected through teacher surveys, individual semi-structured interviews, and video recorded lesson observations. Teacher surveys and interview responses were analyzed thematically using an inductive process to identify themes related to teachers' perceptions of their instructional roles and the instruction in co-taught classrooms, as well as factors that influence their roles and the instruction they provide for students. Lesson observations were scored using a standardized instrument to determine the extent to which evidence-based practices in special education were actually being implemented in these teachers' co-taught classes.

Findings indicated that the majority of special education teachers in this study took on limited roles related to planning, curriculum development, and instructional delivery in their co-taught classes. These special educators identified a number of factors that shaped their instructional roles in the co-taught classroom, with a significant factor being the general education teacher with whom they were paired. General educators were also identified to be an important factor impacting the types of instruction offered in co-taught settings. These findings suggested a clear power differential between general education and special education teachers in co-taught classrooms, with general educators assuming control over the division of responsibilities and instruction in co-taught English Language Arts and mathematics classes. Results of lesson analysis indicated that instruction in the majority of co-taught classrooms observed for the purpose of this study was rated in the low to medium quality range. Exceptions to these findings are noted. Based on these results, implications for practice in schools and teacher preparation are

considered. Recommendations are also made for future research.

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CHAPTER ONE: INTRODUCTION

Statement of the Problem

With federal legislation mandating the education of students with disabilities in the least restrictive environment and the national shift toward inclusive education, the number of students with disabilities served in the general education classroom has significantly increased since the early 1990s (McLeskey, Landers, Williamson, & Hoppey, 2012). Today, the majority of students eligible for special education in the United States are educated in the general education classroom for most or all of the school day (U.S. Department of Education, 2018). In order to meet the specialized learning needs of these students in inclusive settings, *co-teaching* has become a commonly used instructional model (Magiera & Zigmond, 2005; Pugach & Winn, 2011; Conderman & Hedin, 2014). Co-teaching is an instructional arrangement in which a general education teacher and special education teacher collaboratively provide instruction to students with and without disabilities in the same classroom in the regular education environment (Friend, 2008). Through the collaborative work of a trained general educator and a trained special educator, co-teaching is meant to simultaneously provide students with disabilities access to the general education curriculum and the specially designed instruction outlined in their Individualized Education Programs (IEPs), in the context of the least restrictive environment (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Friend, 2016).

Despite the reported prevalence of co-teaching in schools across the United States, there is little empirical evidence that it is an effective means of providing

instruction for students with disabilities (Murawski & Swanson, 2001; Cook, McDuffie-Landrum, Oshita, & Cothren Cook, 2011). In fact, observations of co-taught classrooms indicate that special educators often assume limited instructional roles in these types of classrooms and lack opportunities to implement the types of instructional practices known to be effective for students with disabilities (e.g., Scruggs, Mastropieri, & McDuffie, 2007). While studies have identified a number of factors that special educators perceive influence the implementation of co-teaching in general (e.g., Rice & Zigmond, 2000; Keefe & Moore, 2004), no studies could be located that link such factors to instructional practices used in co-taught settings. It is therefore imperative that research be conducted to investigate the quality of instructional practices used in co-taught settings and explore factors that may influence special educators' implementation, within co-taught classrooms, of the specialized instruction to which students with disabilities are entitled by law.

Definition of Co-Teaching

Co-teaching is an instructional arrangement characterized by “two or more professionals delivering substantive instruction to a diverse, or blended, group of students in a single physical space” (Cook & Friend, 1995, p. 2). In the field of special education, the term co-teaching specifically refers to a general education teacher and special education teacher working together in the general education classroom to teach a heterogeneous group of students, including those with disabilities and those without disabilities (Friend, 2008). These two teachers work collaboratively to co-plan, co-teach, and co-assess students (Friend & Bursuck, 2012); as such, they share responsibility for

instruction as well as accountability for the learning of all students in the class or classes they co-teach (Friend, 2014).

According to its proponents, co-teaching is an ideal arrangement for improving the instruction offered to all students in the general education classroom, as two trained educators merge their expertise to create a learning environment that a single teacher could not create alone (Villa, Thousand, & Nevin, 2013). However, for students with disabilities, co-teaching is much more than an instructional arrangement—it is a *service delivery model* for providing the *specially designed instruction* outlined in each student’s Individualized Education Program (IEP) in the context of the general education classroom (Scruggs & Mastropieri, 2017). Specially designed instruction is specifically tailored to address each student’s disability-related needs so that he or she can access the general education curriculum and also make progress toward the individualized goals specified in his or her IEP (Friend et al., 2010; Friend, 2014; 2016; Riccomini, Morano, & Hughes, 2017).

It is the special educator’s responsibility to implement this type of individualized instruction, which may differ in content, methodology, or delivery of instruction from the instruction offered to other students in the general education classroom (Friend, 2016). Co-teaching therefore requires that teachers not only collaborate to plan and deliver the standard grade-level curriculum to all students, but that they incorporate specially designed instruction for individual students with disabilities into their instruction on a regular basis (Friend & Cook, 2013; Friend, 2016).

Background

In recent years, it has been suggested that co-teaching is a commonly implemented instructional model in inclusive classrooms and schools in the United States (Magiera & Zigmond, 2005; Pugach & Winn, 2011; Conderman & Hedin, 2014). The prevalence of co-teaching is first related to the fact that it holds promise for allowing schools to simultaneously meet multiple federal mandates related to the education of students with disabilities. First, co-teaching is a means through which schools can provide students with disabilities instruction in the *least restrictive environment* (LRE), which has been mandated by the Individuals with Disabilities Education Act (formerly the Education for All Handicapped Children Act) since 1975. For each student with a disability, the LRE is the setting in which the student is educated with students without disabilities to the “maximum extent appropriate,” which is presumed to be the grade-level general education classroom for most students with disabilities (Yell, Katsiyannis, & Bradley, 2011).

Co-teaching also has potential to help schools satisfy federal requirements resulting from standards-based school reform of the early 2000’s (Cook et al., 2011), including requirements that students with disabilities receive instruction from highly qualified teachers in all academic content areas and make progress in the general education curriculum. Co-teaching provides students with disabilities access to highly qualified content area teachers (general education teachers) and the general education curriculum, while simultaneously providing services from a special educator in the least restrictive environment (Friend et al., 2010; Conderman, 2011).

Secondly, co-teaching has strong “intuitive appeal” (Friend et al., 2010, p. 15) as a means of providing students with disabilities an appropriate education in the context of the general education classroom. With the collaborative work of two teachers, co-teaching purportedly provides the opportunity to merge the specialized knowledge and skills each teacher brings to the co-taught classroom for the benefit of all students in an inclusive environment (Villa et al., 2013).

In addition to the widespread prevalence of co-teaching as a service delivery model for students with disabilities in schools, there has also been a substantial body of published literature dedicated to this topic over the past twenty five years in reputable, peer-reviewed special education journals, including those published by the Council for Exceptional Children. Much of this work describes co-teaching and offers recommendations and guidelines for its implementation (e.g., Villa et al., 2013; Gately & Gately, 2001; Murawski & Dieker, 2004).

Rationale

Despite the prevalence and acceptance of co-teaching in both practice and published literature, there is limited empirical evidence that it is an effective service delivery model for providing specially designed instruction to students with disabilities (Weiss, 2004; Magiera & Zigmond, 2005; Cook et al., 2011). In a meta-analysis of studies examining the efficacy of co-teaching, Murawski & Swanson (2001) were only able to locate six studies published between 1989 and 1999 containing quantitative indicators of student outcomes that could be used to calculate an overall effect size for co-teaching. Due to the small number of identified studies and methodological limitations

of these studies, the authors concluded that further research was needed to determine whether or not co-teaching could be considered an effective service delivery model for students with disabilities. In an update of this earlier meta-analysis, Cook et al. (2011) analyzed existing studies on co-teaching and came to the same conclusion as their predecessors: there is currently insufficient data to conclusively support co-teaching as an effective practice for students with disabilities.

In addition to the lack of quantitative evidence related to co-teaching and student outcomes, several qualitative studies have suggested that co-teaching is not implemented in the idealized ways presented in the literature and that general and special education teachers in co-taught classrooms do not regularly engage in the types of instructional practices known to meet the needs of students with disabilities. In a frequently-cited meta-synthesis of 32 qualitative studies on co-teaching, Scruggs and colleagues (2007) found that instruction in co-taught classrooms was dominated by traditional whole-group instruction, with the general education teacher providing instruction to the whole class and the special education teacher serving to assist individual students and manage behavior. Because of the instructional methods used and limited instructional role of special educators in co-taught classrooms observed for the purposes of research, several authors have noted that special educators have little opportunity to implement those practices that are foundational to special education, such as individualized instruction (e.g., Baker & Zigmond, 1995).

In general, these studies suggest that co-taught classrooms may lack implementation of *evidence-based* instructional practices, or those practices that are

supported by research as effective for students with disabilities (Baker & Zigmond, 1995; Weiss & Lloyd, 2002; Zigmond & Matta, 2004). Decades of research indicates that evidence-based, effective special education instruction involves direct, explicit teaching of essential concepts and skills through teacher modeling and extensive guided practice opportunities for students, all of which is continuously adjusted in response to individual student need (Jones & Brownell, 2014). Therefore, in addition to lack of quantitative support for co-teaching as an effective practice for students with disabilities, the results of this qualitative work raise the possibility that special education teachers are not providing many of the thousands of students with disabilities who are currently placed in inclusive co-taught classrooms with the specially designed instruction to which they are entitled under federal education law. In other words, co-teaching may not be providing them with a *special* education at all.

Purpose of the Study

Existing qualitative studies have largely focused on the general role of special educators in co-taught classrooms, most commonly through teacher interviews and classroom observations (e.g., Baker & Zigmond, 1995; Walther-Thomas, 1997; Rice & Zigmond, 2000; Zigmond & Matta, 2004; Magiera, Smith, Zigmond, & Gebauer, 2005). As such, these studies simply describe special educators' general actions within their limited roles in the co-taught classroom and note the overall lack of explicit, individualized instruction for students with disabilities. They do not provide a description of the instructional practices these teachers use in co-taught classrooms in relation to what is known to be evidence-based, effective practice for instructing students with

disabilities. To address this gap in the literature, this study analyzed the instructional actions of eight special education teachers to examine the extent to which they implement instructional practices recognized in the field of special education as evidence-based in co-taught general education classrooms.

In order to more fully understand the instructional practices observed in these classrooms, this study also examined special educators' perceptions of their roles and the factors that contribute to the roles and responsibilities they take on in co-taught classes. In the literature on co-teaching, special education teachers' limited instructional roles in co-taught classrooms have been attributed by teachers themselves to several factors, including lack of content knowledge (Rice & Zigmond, 2000; Weiss & Lloyd, 2002; Mastropieri et al., 2005) and issues related to working in a general education teacher's classroom space (Salend et al., 1997; Scruggs et al., 2007). However, no existing research could be located connecting special educators' roles or such factors to the actual instructional practices they implement in co-taught settings.

This study addresses this gap in the literature by exploring special education teachers' perceptions of both their roles and the instruction provided in co-taught classroom as well as the factors that they report influence the instructional practices used in these settings. Together, this allows conclusions to be drawn about the factors that may contribute to the arrangement of teachers, so often noted in co-taught classrooms, as well as the implementation of evidence-based, explicit instructional practices in these settings.

Research Questions

1. How do special education teachers describe their instructional roles and responsibilities in co-taught classrooms at the middle school level? What factors do they perceive influence their roles and responsibilities?
2. What are special education teachers' perceptions of the instructional practices used in their co-taught classrooms? What factors do they perceive influence the instructional practices used in their co-taught classrooms?
3. To what extent do special education teachers implement evidence-based instructional practices for students with disabilities in co-taught classrooms at the middle school level?

Research Methodology

To answer these research questions, this mixed-methods, multiple case study explored the practices and perceptions of eight special education teachers working at the middle school level (grades 6, 7, and 8). For the purposes of this study, special education teachers working in public middle schools as co-teachers were recruited from the sample of a larger study being conducted with special educators in elementary and middle schools during the 2016–2017 school year. The eight teachers included in this study participated in the larger study during the 2016–2017 school year and volunteered to complete an additional individual interview.

The sample of the present study was restricted to teachers at the middle school level because, in general, middle schools operate according to structured schedules in which teachers have equal blocks of time for instruction in each academic subject,

typically between 45 minutes and one hour. This allowed comparisons to be made and conclusions to be drawn across classrooms, teachers, and schools with the general assumption that special educators had similar amounts of time in each class recorded for the purposes of this study.

Teacher surveys and interviews. In order to address Research Question 1 (How do special education teachers describe their instructional roles and responsibilities in co-taught classrooms at the middle school level? What factors do they perceive influence their roles and responsibilities?) and Research Question 2 (What are special education teachers' perceptions of the instructional practices used in their co-taught classrooms? What factors do they perceive influence the instructional practices used in their co-taught classrooms?), participating teachers completed two online surveys and an individual in-person interview.

Surveys completed by each teacher in the fall and spring of the school year in which this study was conducted were developed by research staff. Surveys assessed a wide range of factors related to teachers' overall job structure, responsibilities, and perception of their current school working environment. The spring survey included a set of questions related directly to special education teachers' perceptions of co-teaching, including perceived involvement in co-planning, co-teacher relationship and compatibility, division of responsibilities in the co-taught classroom, and administrative support for co-teaching.

Teacher responses on these surveys were analyzed qualitatively at the individual level to collect information on each teacher's general job roles and responsibilities for the

2016–2017 school year, as well as teacher perceptions of their larger school context during that year. Responses on the co-teaching survey were used to understand individual teachers' roles and responsibilities specifically in co-taught classrooms as well as general perceptions of the classroom and school contexts in which their co-teaching was situated during the 2016–2017 school year.

Teachers participating in this study also completed individual interviews with the author, aimed at gaining an in-depth understanding of each teacher's perceptions of his or her co-teaching role, the instruction provided in co-taught classrooms, and the factors that influence this instruction. As part of this interview, teachers' perceptions of the extent to which they implement evidence-based special education practices in co-taught general education classrooms was specifically probed.

Interviews were transcribed and analyzed thematically, to identify patterns of meaning, or themes, in the data using the six-phase process outlined by Braun and Clarke (2006). This consisted of a recursive process in which interview responses were coded in order to identify higher-level themes related to the research questions for each teacher case included in the study.

Lesson observations and analysis. In order to address Research Question 3 (To what extent do special education teachers implement evidence-based instructional practices for students with disabilities in co-taught classrooms at the middle school level?), four lessons for each participating teacher were video recorded during the 2016–2017 school year as part of the larger study. Lessons were reviewed and analyzed quantitatively using the Quality of Classroom Instruction instrument (QCI; Doabler et al.,

2015). This instrument measures the quality of eight aspects of explicit instruction, including teacher modeling, checks for student understanding, learning success, student engagement, student response time, instructional pacing, academic feedback, and transitions between lesson activities. Each aspect of instruction is rated on a scale from 1 (low quality, lowest score) to 3 (high quality, highest score). The eight instructional principles outlined in the QCI align to evidence-based practice in special education (e.g., Jones & Brownell, 2014; Riccomini et al., 2017).

Significance

The results of this study provide insights into these teachers' perceptions of their instructional roles in co-taught classrooms, the quality of instruction provided in co-taught classrooms, and the factors that impact both of these things. The findings of this study also provide information about the extent to which evidence-based special education instructional practices are implemented in the co-taught general education classroom among a closely observed group of middle school special educators. Importantly, these results can be used to understand influences on instructional practices used in co-taught classrooms and make links between these factors and the quality of instruction provided for students with disabilities in these types of classrooms. These results can also be used to provide school leaders and teacher educators with considerations for supporting the use of evidence-based practices within co-taught classes.

During study design, data collection, and data analysis, a number of steps were taken to maintain trustworthiness and credibility. The overall research design involved

triangulation of data sources (Creswell, 2013) from lesson observations, surveys, and interviews. The data analysis process was completed in a transparent way with multiple opportunities for peer review and debriefing through conferences with dissertation committee members and data checking by a doctoral student with training in qualitative research.

Several limitations of this study must be acknowledged. This study included a sample of eight special education teachers working in public middle schools in the United States. This was a self-selected group of teachers who volunteered to participate in the larger study being conducted during the 2016–2017 school year and then to participate in additional interviews during the summer of 2017. The experiences and perceptions reported by this self-selected group of participants may not be reflective of the experiences and perceptions of special education teachers in co-taught teaching situations in the larger population. In addition, participant reactivity was possible during lesson observations, survey completion, and interview completion. Because teachers knew their instruction was being observed to be scored and their responses to surveys and interview questions would be recorded for analysis, they may have behaved or responded in ways they typically would not have for the purpose of this study.

Epistemological Assumptions and Researcher Position

Due to the nature of this study's research questions, it is important to note that I approached this research from a positivist paradigm in which knowledge is created through observation and data collection (Ormston, Spencer, Barnard, & Snape, 2014). Because all researchers bring a position and perspective to research, it is necessary for

qualitative researchers to be conscious of the experiences and biases they bring to qualitative research. Creswell (2013) defines this as reflexivity, which involves the researcher acknowledging his or her experiences with the subject of their research as well as how these experiences may shape interpretations of data and information gained throughout a study.

It is therefore important to explain that I came to this research process as a former elementary and middle school special education teacher. Because of my work as a special educator predominantly in specialized small group classroom settings, I highly value and believe in the use of explicit, teacher-directed instruction for students with disabilities. Due to my years of research and study in the field of special education as a doctoral student, I also come to this research study with a firm knowledge of evidence-based practice in special education that similarly emphasize very specific practices related to direct, explicit instruction for students with disabilities, regardless of educational setting.

I therefore analyzed the data collected in this study from the position of detached observer presumed to have “expert” judgment that can be brought to bear on understanding participants’ instructional actions and perspectives. Particularly when analyzing teacher instructional quality, I approached the data from this perspective. However, while collecting and analyzing data through teacher surveys and interviews, I sought to remain an objective observer and listener, learning from teachers as experts in their own teaching situations rather than as a researcher and former teacher judging their performance or evaluating their responses in relation to my knowledge of evidence-based practices for students with disabilities. Throughout the research process, I regularly

conferred with committee members and peers regarding the study design, data collection, and data analysis processes. Additionally, during the data analysis process, I actively looked for information that was contrary to my beliefs about effective instruction for students with disabilities. Specifically, during the interview analysis process, a fellow doctoral student reviewed the interviews and coded extracts to check for bias and provide feedback on coding and emerging themes.

Conceptual Framework

This research study is situated within the existing research literature on co-teaching. As will be described in the literature review in Chapter 2, this literature is largely focused on school and teacher factors that influence the overall implementation of co-teaching and teacher collaboration, such as teacher planning time, administrative support, and co-teacher relationships (e.g., Austin, 2001). Existing research does not address how these factors, or other factors, relate to the actual instruction provided in co-taught settings or the quality of the instruction offered in these types of classrooms. Furthermore, it is unclear *how* school context and teacher factors may shape instruction and instructional quality.

Bettini, Crockett, Brownell, and Merrill (2016) proposed a conceptual framework describing the relationship between special educators' working conditions and instruction. According to this framework, special education teachers' working conditions influence their opportunities to *learn*, to *plan*, and to *teach*, and thus impact the quality of the instruction they provide for students. This framework posits that certain working conditions, such as interactions with colleagues and administrators and professional

development, impact special education teachers' opportunities to *learn* how to teach. Some working conditions, such as planning time, impact their opportunities to *plan*. Finally, some working conditions, including instructional time and student groupings, impact teachers' opportunities to *teach*. According to this framework, these working conditions are situated within the larger context of administrative support and school culture, both of which "provide a foundation for SET's [special education teachers'] opportunities to learn, plan, and teach" (p. 186).

This framework can be used to understand how factors that have been identified as influencing the overall success of co-teaching might impact the work that special educators are able to do in these types of classrooms and thus the quality of instruction they provide. The findings of this study are discussed in relation to this conceptual framework in Chapter 5.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The purpose of this literature review is to provide an overview of the existing research on co-teaching and provide context for the purpose of the current study. In order to complete this review, a comprehensive literature search was conducted using Boston University's online search engine, which includes well-known educational databases such as ERIC, JSTOR, and SAGE Premier. An initial search was conducted to identify quantitative and qualitative studies investigating the efficacy of co-teaching for students with disabilities. Searches were conducted using the key term *co-teaching* as well as terms such as *efficacy*, *student achievement*, *student outcomes*, and *effectiveness*. Results were limited to those studies addressing K–12 education, rather than those that involved co-teaching in higher education settings.

This initial search produced articles from scholarly peer-reviewed educational journals (i.e., *Remedial and Special Education*, *Exceptionality*, *Exceptional Children*) as well as practitioner-focused journals (i.e., *Teaching Exceptional Children*, *Intervention in School and Clinic*). Articles identified from this initial search were reviewed to identify additional references relevant to this research study. Finally, a broader search was conducted using Google and Google Scholar to identify relevant practitioner-focused articles from peer-reviewed journals geared toward co-teaching in K–12 school settings.

In conjunction with searches for research articles, searches were conducted using the library websites for local universities to identify books published on co-teaching, collaborative teaching, or team teaching in the last 15 years, including chapters in recent

handbooks on education and special education.

This chapter provides an overview of the definition of co-teaching, specifically as it is used in the field of special education, as well as a brief summary of the development of co-teaching as an instructional model. Existing peer-reviewed literature on co-teaching is presented, including studies assessing the efficacy of co-teaching through quantitative and qualitative measures. Throughout this chapter, information from current practitioner-focused articles is included to demonstrate the current emphasis on supporting educators to implement co-teaching in K–12 classrooms. This chapter concludes with a summary of how the current study fits into the larger body of research on co-teaching.

Definition of Co-Teaching

Co-teaching is defined as “two or more professionals delivering substantive instruction to a diverse, or blended, group of students in a single physical space” (Cook & Friend, 1995, p. 2). In the field of special education, co-teaching is a specific instructional arrangement in which a general education teacher and special education teacher jointly deliver instruction to a heterogeneous group of students with and without disabilities in the general education classroom (Friend, 2008). In the co-taught classroom, teachers collaboratively plan, deliver, and assess instruction and share classroom responsibilities such as classroom management, grading, and parent communication (Friend, 2008; Conderman, 2011; Friend & Bursuck, 2012); therefore, co-teachers share accountability for the learning and progress of all students in the class or classes they teach together (Gately & Gately, 2001; Friend, 2014).

To this end, six approaches to collaborative instruction are described in the

literature on co-teaching: one teach/one observe, one teach/one assist, station teaching, parallel teaching, alternative teaching, and team teaching (e.g., Friend & Bursuck, 2012; Friend & Cook, 2013). In *one teach, one observe*, one teacher delivers instruction while the other teacher observes this instruction and collects data on an individual student, a group of students, or the whole class. In *one teach, one assist*, one teacher delivers instruction while the other teacher provides support, such as monitoring student learning or assisting individual students. *Station teaching* occurs when the class is divided into two or three groups of students who rotate through various learning stations, two of which are led by a teacher. In *parallel teaching*, the class is split into two groups and each group is taught the same content by one of the co-teachers at the same time. *Alternative teaching* occurs when one teacher delivers instruction to a large group of students and the other delivers instruction to a small group of students based on individual needs. This small group instruction is typically focused on re-teaching, pre-teaching, or enrichment. Finally, *team teaching* is when the two teachers work collaboratively to provide instruction to all students at the same time.

To most effectively provide instruction to all students, it is recommended that co-teachers vary their use of these instructional approaches to suit individual lesson objectives and activities, students' academic and behavioral needs, and teacher knowledge of content in a given lesson (Brown, Howerter, & Morgan, 2013; Friend & Bursuck, 2012). Regardless of the specific instructional approach being used in a given lesson, general and special educators who effectively co-teach are described in the literature as moving fluidly about their shared classroom space to collaboratively present

information, guide lesson activities, assist individual students, and manage student behavior. In these classrooms, “the ‘chalk’ passes freely between the teachers” (Gately & Gately, 2001, p. 44), who collaboratively work as an instructional delivery team to serve their shared students.

Emergence and Development of Co-Teaching

It has been suggested that co-teaching is currently a common means of providing instruction to students with disabilities in inclusive classrooms across the United States (Magiera & Zigmond, 2005; Pugach & Winn, 2011; Conderman & Hedin, 2014), 63% of whom spend all or most of the school day in the general education classroom (U.S. Department of Education, 2018). Co-teaching has become a commonly used instructional model, particularly in recent years, because it can be a means through which schools can meet several provisions of federal education law simultaneously, including (a) the least restrictive environment (LRE) mandate of the Individuals with Disabilities Education Act (IDEA; 2004) and (b) accountability mandates associated with No Child Left Behind (NCLB, 2002) and standards-based school reform.

Least restrictive environment. The federal mandate for students with disabilities to be served in the least restrictive environment (LRE) was first introduced with the passage of Public Law 94-142, The Education for All Handicapped Children Act, in 1975. This law states:

To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, separate schooling, or other

removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (EHA, 1975, sec. 1412(5)(B))

Students with disabilities therefore must be educated with peers without disabilities to *the maximum extent appropriate*, which is presumed to be the general education classroom (Yell et al., 2011). This clear preference for educating students with disabilities in the general education classroom, except in instances where an outside placement would more effectively meet a student's needs, was reiterated when this law was reauthorized in 1990 as the Individuals with Disabilities Education Act (IDEA), and again in subsequent reauthorizations in 1997 and 2004 (Rozalski, Stewart, & Miller, 2011).

The early legislative commitment to education in the LRE, established in 1975, was situated within a movement within the field of education in the United States toward more inclusive education for students with disabilities (Danforth, 2014). During the 1960's and 1970's, the efficacy of education for students with disabilities in segregated settings was challenged as American society experienced a shift toward normalizing disability and more humanely treating individuals with disabilities (Winzer, 1993). Driven largely by disability rights advocates and parents of individuals with disabilities, this movement was based on the educational philosophy that students with disabilities are entitled to an appropriate education at public expense and should be educated in the general education classroom alongside their peers without disabilities (Winzer, 1993;

Murawski & Lochner, 2011).

In the context of the inclusion movement and the LRE mandate, activists advocated for students with disabilities to be mainstreamed into regular education classrooms from separate special education classroom settings (Winzer, 1993; Scruggs & Mastropieri, 1996). Early on in the efforts to make this educational shift, co-teaching was introduced as an option for meeting the needs of mainstreamed students with disabilities, and others with diverse learning needs, as they were reintegrated into the general education classroom. Bauwens, Hourcade, and Friend (1989) first described this as *cooperative teaching*, a service delivery model in which general education and special education teachers jointly teach academically and behaviorally heterogeneous groups of students in an integrated educational environment. At this point, cooperative teaching was considered a model for facilitating “a philosophical as well as pragmatic merger between general and special education” (p. 17) in order to share responsibility for the education of all students. As such, co-teaching was suggested as a means of supporting the reintegration of students from separate special education settings into the general education classroom. Additionally, it was meant to provide teachers the ability to give *all* students more individualized instruction and specialized interventions in the general education setting, reducing the need for intensive intervention or pull-out special education services later (Bauwens et al., 1989).

The name cooperative teaching was later shortened by Friend and Cook (1992), who defined *co-teaching* as the “new mainstreaming” (p. 30). These authors described co-teaching as an alternative to pulling students out of the general education classroom

for special education services by bringing the special education teacher into the regular classroom. This was meant to reduce stigma for students with disabilities and provide them with more consistent, cohesive instruction than what was available when they were repeatedly pulled out of their regular classroom. With the presence of two teachers in the classroom, Friend and colleagues also suggested that all students would have access to increased opportunities for learning and support (Friend & Cook, 1992; Friend, Reising, & Cook, 1993). After its early introduction in the literature, it was reported that co-teaching became a widely implemented instructional model. In 1995, the National Study of Inclusive Education indicated that co-teaching was the most commonly used model for implementing the inclusion of students with disabilities in general education classrooms across all fifty states (National Center on Educational Restructuring and Inclusion, 1995).

Standards-based school reform. In the years since its introduction, the use of co-teaching in schools has continued to increase, particularly in response to standards-based school reform and increased accountability measures for student achievement throughout the late 1990's and early 2000s (Kloo & Zigmond, 2008; Cook et al., 2011). In the context of this reform, the reauthorization of IDEA in 1997 and its later iteration as the Individuals with Disabilities Education Improvement Act of 2004 both required that students with disabilities not only have physical access to the general education classroom, but that they also have access to and make progress in the general education curriculum (Thurlow & Quenemoen, 2011). In particular, IDEA (2004) is closely aligned with the 2001 reauthorization of the Elementary and Secondary Education Act, better known as No Child Left Behind (NCLB, 2002). This federal law required that students

with disabilities participate in state- and district-wide assessments of grade-level academic standards and tied the performance of specific student subgroups, including students with disabilities, to school and district accountability measures (Institute of Education Sciences, 2011).

Together, NCLB (2002) and IDEA (2004) required that students with disabilities be held responsible for the same academic content and be held to the same performance standards as their classmates without disabilities (McLeskey et al., 2012). In the context of this standards-based school reform, co-teaching could be a model through which schools and districts could meet legislative requirements for access to the general education curriculum for students with disabilities while also providing these students the specially designed instruction and supports outlined in their IEPs in the least restrictive environment (Murawski & Dieker, 2004; Friend et al., 2010).

In addition, NCLB (2002) mandated that all students receive instruction from educators who are highly qualified in their respective content areas. At the time, this requirement could be problematic for special educators, particularly those at the secondary level, many of whom had not attained highly qualified teacher status in the content areas they were teaching (Cook et al., 2011).¹ Delivering special education services in the co-taught general education classroom could address this problem by giving students access to highly qualified general education teachers in addition to their

¹ Passage of the Every Student Succeeds Act (ESSA) in 2015 eliminated the federal requirement that special education teachers be highly qualified, as defined by NCLB. ESSA includes amended requirements for the professional preparation of special education teachers, including that they hold special education teacher certification and have obtained at least a Bachelor's degree, starting with the 2016-2017 school year (U.S. Department of Education, 2016).

special education teachers, thus keeping schools and districts in compliance with federal law (Friend, 2008; Conderman, 2011).

Intuitive appeal. In addition to providing schools the opportunity to meet federal requirements, the popularity of co-teaching in schools across the United States can be attributed to its “intuitive appeal... as a means for improving the educational outcomes of students with disabilities” (Friend et al., 2010, p. 15). This is first because the presence of two teachers in one classroom reduces the student teacher ratio, ostensibly providing all students with increased opportunities to participate, interact with a teacher, and engage with classroom content (Friend, 2007; Friend & Cook, 2013). Secondly, having two teachers in the same room allows for a wider range of instructional options and more instructional variety than what is available with just one teacher (Cook & Friend, 1995).

Finally, co-teaching provides the opportunity to merge the specialized knowledge and skills each teacher brings to the co-teaching relationship, thereby improving instruction (Villa et al., 2013). To the co-taught classroom, general education teachers bring deep knowledge of grade-level curriculum and instruction, the ability to manage large groups of students, and an understanding of the range of typical student learning and behavior for a given grade level (Friend, 2008). The expertise of these “*masters of content*” (Villa et al., 2013, p. 17) is combined with the expertise of special education teachers, or “*masters of access*” (p. 17). Special educators hold deep knowledge of learning processes and cognition, skill in facilitating learning through remedial instruction, and understanding of how to address individual student needs (Friend, 2008). When general and special education teachers effectively combine their knowledge and

skills, they are purportedly able to “create a learning situation that cannot be produced by a solo teacher” (Friend, 2008, p. 9), ostensibly resulting in improved outcomes for students.

The intuitive appeal of co-teaching is recognized and reinforced by both general education and special education practitioners who work in co-taught classrooms. Overall, surveys and interviews conducted with teachers indicate that both general education and special education teachers who participate in co-teaching have positive perceptions of co-teaching in general (Scruggs et al., 2007) and believe that it is related to positive outcomes for students with disabilities (Welch, 2000; McDuffie, Mastropieri, & Scruggs, 2009).

In particular, teachers have described academic benefits for students related to co-teaching over instruction in general education classes taught by a single general educator (e.g., Rice & Zigmond, 2000; Austin, 2001). Both general and special education teachers working in co-teaching situations attribute these academic benefits to the fact that students receive more individualized attention, teacher time, and assistance with the reduced student-teacher ratio in co-taught classes (Walther-Thomas, 1997; Trent, 1998; McDuffie et al., 2009). Teachers have also reported that all students benefit from the type of instruction offered in co-taught classes, which they have reported can emphasize remedial strategies and review (Austin, 2001) and include support in organization skills and learning strategies (Trent, 1998).

General and special education co-teachers have also indicated that co-teaching positively contributes to their own professional development, helping them to improve

their teaching practice as they share knowledge and skills and learn from their co-teacher (Walther-Thomas, 1997; Rice & Zigmond, 2000; Austin, 2001; Cramer & Nevin, 2006). For example, in semi-structured interviews conducted by Austin (2001), K-12 special education teachers indicated that co-teaching led to increased content knowledge and general education teachers indicated that it led to improved classroom management and curriculum adaptation skills.

Existing Literature on Co-Teaching

The widespread acceptance of co-teaching in the field of special education is evidenced by the substantial body of literature published on this topic over the past twenty-five years. A substantial amount literature has been published by journals recognized as reputable in the field of special education, including *Exceptional Children*, *Teaching Exceptional Children*, and *Remedial and Special Education*. In addition, a number of publications have been produced or endorsed by the Council for Exceptional Children, the leading professional association of educators of exceptional children in the United States, that sets professional standards for teacher preparation, ethical principles, and evidence-based practices in special education (e.g., Magiera et al., 2005; Murawski & Dieker, 2012; Friend, 2014; Scruggs & Mastropieri, 2017). Overall, much of this work describes co-teaching and offers recommendations for its implementation (e.g., Murawski & Dieker, 2004; Sileo, 2011) using information gleaned from observations of existing co-teaching programs (e.g., Dieker, 2001; Mastropieri et al., 2005) and interviews and surveys with practicing co-teachers (e.g., Austin, 2001; Keefe & More, 2004). As such, this literature concentrates on two main areas: (a) co-teaching program logistics and (b)

co-teacher relationships.

Program logistics. The literature addressing logistical factors that influence the successful implementation of co-teaching has generally focused on co-teacher planning time, administrative support for co-teaching, and professional development for co-teachers.

Planning time. Across publications, common planning time is cited as a critical element of effective co-teaching implementation. In surveys and interviews, general education and special education co-teachers frequently place high value on scheduled planning time and report needing more time built into their schedules for mutual planning (e.g., Austin, 2001). When asked about the most important feature in a co-teaching relationship in structured interviews conducted by Kohler-Evans (2006), the top response reported by secondary general and special education teachers was planning time.

In practitioner-focused articles offering recommendations for the implementation of co-teaching, regularly scheduled co-planning time is almost always mentioned (e.g., Stivers, 2008; Nierengarten, 2013). In addition, there are a plethora of teacher-focused articles and books that offer guidelines and forms for structuring planning time to maximize efficiency and teacher collaboration (e.g., Murawski, 2012).

Administrative support. Much of the literature also emphasizes the importance of administrative support in the effective implementation of a co-teaching model (e.g., Austin, 2001). This includes support from administrators both prior to and during the implementation of co-teaching, so that logistical issues related to class size, scheduling, and human resources can be addressed. However, it also includes higher-level support

from building and district level administrators for creating a professional culture in schools characterized by collaboration, acceptance of mistakes, and openness to inclusion (Arguelles, Hughes, & Schumm, 2000). Particularly when inclusive special education practices and co-teaching are newly implemented in a school or district, teachers view administrators as essential in leading and advocating for their efforts.

Professional development. The literature on co-teaching emphasizes the importance of professional development specifically related to co-teaching. This includes teacher training prior to participation in a co-teaching arrangement as well as regular opportunities for professional development during the year. Such training covers instructional strategies specific to co-teaching arrangements, as well as professional development in such areas as communication and collaboration techniques for co-teaching partners (e.g., Nierengarten, 2013). More frequent in-service professional development specifically geared toward co-teaching practices has been associated with higher teacher confidence in ability to co-teach, interest in co-teaching, and positive attitudes about co-teaching (Pancsofar & Petroff, 2013). However, co-teachers have frequently reported that the most common form of professional development they receive is limited to in-service training as the school year begins. This has been reported to be short-term and limited in scope (Fennick & Liddy, 2001).

Co-teacher relationships. In addition to co-teaching logistics, much of the literature on co-teaching has focused on the importance of establishing and maintaining a strong co-teacher relationship. Scholars posit that the ideal relationship between co-teachers is characterized by open and honest communication (Gately & Gately, 2001;

Keefe & Moore, 2004), mutual trust (Bessette, 2008), respect (Mastropieri et al., 2005), parity (Stivers, 2008; Kohler-Evans, 2006), and clear methods for resolving conflict when it arises (Brown et al., 2013; Ploessl, Rock, Schoenfeld, & Blanks, 2010). Often referred to as a professional marriage, the relationship between co-teachers is described as developing and evolving over time as teachers get to know one another and work together to solve problems and address issues as they arise (Gately & Gately, 2001; Sileo, 2011).

There currently exists an abundance of practitioner-focused literature offering recommendations and structured methods for developing a strong teacher relationship from the outset of co-teaching through such means as self-examination of individual strengths and weaknesses, analysis of communication patterns (Ploessl et al., 2010), and early communication on important issues such as grading, behavior management, and design of the physical classroom space (Arguelles et al., 2000).

Co-teacher compatibility. Co-teacher compatibility is emphasized as one of the most essential elements for the success of the co-teaching relationship. In interviews conducted by Rice and Zigmond (2000), secondary co-teachers rated both professional and personal compatibility as important for the success of co-teaching, including similar views on academic and behavioral expectations, willingness to communicate openly, and having equal pedagogical knowledge and instructional skill. In observations of co-teachers, Mastropieri et al. (2005) noted that compatibility in perspectives on effective teaching was important to the success of the co-teaching relationship; conversely, conflicting ideas about how to plan, manage behavior, or interact with students could prevent a positive relationship from forming.

In interviews, co-teachers have recommended that teachers should be able to choose the person with whom they co-teach because the relationship between the teachers is so important to the success of co-teaching (Keefe & Moore, 2004). Many articles on the implementation of co-teaching similarly suggest allowing teachers to voluntarily participate in this type of instructional arrangement (e.g., Nierengarten, 2013).

Based on this work addressing co-teaching logistics and relationships, practitioner-focused journals are replete with “how-to” articles and books offering recommendations for developing co-teaching programs (e.g., Murawski, 2005; Murawski & Dieker, 2004), planning and implementing instruction in the co-taught classroom (e.g., Vaughn, Schumm, & Arguelles, 1997; Wilson, 2008; Sileo & van Garderen, 2010; Conderman & Hedin, 2014; Scruggs & Mastropieri, 2017), maintaining productive co-teaching relationships (e.g., Kohler-Evans, 2006; Sileo, 2011; Pratt, 2014), supervising co-teachers (e.g., Walther-Thomas, Bryant, & Land, 1996; Wilson, 2005; Nierengarten, 2013), and evaluating co-teachers (Murawski & Lochner, 2011).

Quantitative Efficacy Studies

Given the substantial body of literature dedicated to the implementation of co-teaching, it appears that co-teaching is a widely accepted practice in the field of special education. However, there is little empirical research supporting the efficacy of co-teaching for students with disabilities. In a comprehensive meta-analysis of studies examining the effectiveness of co-teaching, Murawski & Swanson (2001) were only able to locate six studies published between 1989 and 1999 containing quantitative indicators of student outcomes that could be used to calculate an overall effect size for co-teaching.

Across these six studies, individual effect sizes varied significantly, from .08 to .95 for a variety of student outcomes, such as course grades, scores on achievement tests, attitudes, and social skills. From these individual effect sizes, the overall mean effect size for co-teaching was calculated to be 0.40, indicating a moderate effect on students' academic and social outcomes in favor of co-teaching. Based on the small number of identified studies and several methodological limitations of these studies, the authors concluded that further research was needed to determine whether or not co-teaching could be considered an effective service delivery model for students with disabilities. In an update of this earlier meta-analysis, Cook et al. (2011) analyzed existing studies on co-teaching and came to the same conclusion as their predecessors—there is currently insufficient data to conclusively support co-teaching as an effective practice for students with disabilities.

More recently, Solis, Vaughn, Swanson, and McCulley (2012) published a descriptive summary of six existing syntheses and meta-analyses examining the efficacy of inclusion and co-teaching for students with disabilities published between 1990 and 2010. Their review indicated that less than 15% of the 146 studies represented by these six syntheses included student outcome data related to inclusion or co-teaching and even fewer studies actually manipulated co-teaching in order to determine influence on student outcomes. From the studies that did include indicators of student outcomes, the authors concluded, “the most promising interpretation of the data is that co-teaching is likely to be associated with small gains when implemented appropriately” (p. 507).

The existing outcome studies on co-teaching can be organized into two categories: (a) studies that examine student outcomes associated with instruction in the

general education classroom via co-teaching in comparison to outcomes obtained in more restrictive special education settings and (b) those that compare student outcomes in general education classes with a co-teacher versus those obtained in general education classes without a co-teacher.

Co-teaching versus service delivery in more restrictive settings. In an early study, Bear and Proctor (1990) compared the academic achievement gains of third grade students with mild disabilities provided services full-time in the integrated general education classroom via co-teaching with those of students from who received services in the resource room setting. The 47 third grade-students who received instruction full time in integrated general education classrooms were taught by a general education and special education teaching team. The comparison group of 31 third-grade students with disabilities from three neighboring school districts attended regular education classrooms with a general education teacher but were pulled out daily for instruction in the resource room with a special educator for between eight and 20 hours per week. Students were studied in existing classroom settings and were not assigned to classrooms for the purposes of this study.

The authors found few significant differences in academic outcomes for students with disabilities according to special education service delivery model. Students with disabilities in co-taught classrooms had greater gains over the course of the year than did students educated in resource rooms on a standardized measure of reading, mathematics, and language; however, these differences were only statistically significant in the area of mathematics.

In a similarly designed study, Rea, McLaughlin, and Walther-Thomas (2002) compared the academic outcomes of 36 eighth-grade students with SLD receiving special education services in inclusive, co-taught classrooms in one middle school with those of 22 students receiving services in separate pull-out classrooms in another middle school in the same district. Students in the school that implemented co-teaching attended general education classes co-taught by one general educator and one special educator in all content areas. Students in the district's other middle school attended general education classes taught by one general educator for all core content areas and then spent either one or two elective class periods in the resource room with a special education teacher. These were existing student placements, so students were not randomly assigned to these classroom settings for the purposes of this study.

Existing student data related to academics, behavior, and attendance was collected at the end of one school year and compared between the two groups of students. Results indicated that co-taught students did not perform significantly differently than their peers who received services in the pull-out setting on state proficiency tests designed to assess mastery of state learning objectives in reading, writing, or math, or on standardized measures of reading comprehension, science, or social studies skills. Co-taught students did perform significantly better in the areas of language and math and achieved higher grades in all academic areas.

The authors of these two studies interpreted these results as evidence in favor of an inclusive model of special education because students with disabilities in inclusive classrooms obtained academic outcomes that were similar to, or in some cases even better

than, those made by students provided services in the resource room setting without having to be removed to more restrictive settings.

I located one other study that compared student outcomes associated with the co-taught general education classroom and separate resource settings with those obtained through a *combined services* approach—co-teaching in the general education classroom *plus* service delivery in the resource room.

In this study, Marson (1996) examined reading outcomes for elementary students with LD in one school across three different service delivery models, where students had existing placements prior to the start of the study: inclusion only, pull-out only, and combined services. In the *inclusion only* model, 33 students with LD received instruction in all IEP areas in the general education classroom with a regular and special education teacher working collaboratively. In the *pull-out only* model, 171 students with LD received instruction in each IEP area from a special educator in the resource room, with no collaboration between their general and special education teachers. In the *combined services* model, 36 students with LD received instruction for all IEP areas in the general education classroom with a collaborative teaching team as well as instruction in the pull-out resource room with a special educator.

A curriculum-based measure of reading rate indicated that students with disabilities in all three instructional conditions made progress in the number of words read correctly over the course of the school year. However, the reading growth of students in the combined services group was significantly greater than that of students in the other two groups. These results were interpreted to suggest that inclusive education

via a combined service delivery model may be most effective for students with disabilities, providing them with the support of two teachers in the co-taught general education classroom while also granting them access to the individualized instructional opportunities exclusive to the separate special education setting.

In a study documenting the effects of an inclusion program in one elementary school on students' academic outcomes, Klingner, Vaughn, Hughes, Schumm, & Elbaum (1998) came to a similar conclusion about the appropriateness of full-time inclusive support via a co-teaching model for all students with disabilities. This study examined the growth of a group of 25 students with specific learning disability (SLD) in grades three through six receiving co-taught instruction in the general education classroom over the course of one school year using a pre-post-test design.

Prior to the start of this study, students with SLD and their non-disabled peers had already been receiving instruction in the general education classroom through an existing co-teaching model. According to this model, two special education teachers worked in the general education classroom with three general education teachers each for 45 to 90 minutes per day to co-teach, provide small group instruction, and work individually with students with LD.

Using results of reading and math tests administered at the beginning and end of the school year in which the study took place, the authors found that individual students with SLD demonstrated mixed results: some students made large gains in reading, many made moderate gains, and some showed little or even no improvement. On both standardized and informal measures of reading, the students with SLD who began the

year with the lowest reading levels remained the lowest readers with the least improvement by the end of the school year, while those students with SLD who started off the year with higher reading levels made the biggest improvements.

From these results, the authors concluded that for some students with SLD performing at the lowest levels, receiving services in the general education classroom, even with highly supported co-teaching, may be insufficient in meeting their needs. As Marston (1996) asserted, these students may be more appropriately served by a combined services approach with co-teacher support in the general education classroom and intensive reading instruction in the separate special education setting.

As studies comparing student outcomes obtained in inclusive general education classrooms with those obtained in resource rooms, these studies focus on the *where* of service delivery rather than the *how*. As such, they did not specifically address the efficacy of instruction provided in the co-taught classroom, but rather outcomes associated with each classroom setting.

Co-teaching versus general education instruction without co-teaching. In more recent years, outcome studies have focused more on the *how* of service delivery by examining the impact of co-teaching within the inclusive general education classroom. These studies compare student outcomes obtained with co-teachers (a general and special education teacher working together) in the general education classroom to those obtained in the general education classroom without the presence of a special education co-teacher.

In an experimental study, Fontana (2005) investigated the impact of co-teaching

on the academic achievement of eighth-grade students with LD who were also at risk for school failure. In this study, 33 students with LD were randomly selected from all students with LD in one middle school and divided into two groups: the co-teaching group and the comparison group. Students in the co-teaching group were scheduled into co-taught English and math classes in the general education setting for the entire school year, while students in the comparison group were randomly assigned to general education English and math classes taught solely by a general education teacher. Both groups of students in this study were scheduled to receive educational support in the resource room for one class period each day.

Over one school year, results indicated that students with LD in the co-teaching group demonstrated a statistically significant increase in their final class averages from the end of seventh grade to the end of eighth grade in both English and math. However, students with LD who were taught in the general education classroom by a solo general education teacher did not demonstrate these significant improvements from the end of the previous school year to the end of the year in which the study took place.

In a study of seventh-grade science classes, McDuffie, Mastropieri, and Scruggs (2009) similarly found co-teaching to be associated with stronger academic performance in the grade level curriculum. The authors examined student performance on researcher-developed science tests in eight inclusive general education science classes across two school districts: four taught by a co-teaching pair and four taught solely by a general education science teacher. This included students with and without disabilities (n=203), all of whom were placed in co-taught or solo-taught science classes by individual IEP

teams prior to the study.

Results of tests assessing student understanding of content taught during the eight weeks of the study indicated that those in the co-taught classes had significantly higher scores on these tests than did students in non-co-taught classes. However, these students outperformed their peers in non-co-taught classes specifically on the multiple-choice items of these assessments, but not on the items that required production of information in the form of short answer or open-ended responses. The authors of this study noted that this may have been due to the nature of these two types of questions. The multiple-choice questions required lower-level thinking skills such as recall of factual information and may have been easier for students to answer after eight weeks of science instruction than the open-ended questions, which required greater abstract thinking.

In a slightly different approach, Hang and Rabren (2009) used a pre-post repeated measures design to compare the academic and behavioral outcomes of the same group of 58 students with disabilities at the elementary, middle, and high school levels when instructed with co-teaching and without co-teaching in the general education classroom over two school years: the year before the implementation of co-teaching and the year in which co-teaching was implemented district-wide across all grade levels. The results of paired samples T-tests indicated that after one year of co-teaching, students with disabilities had significantly higher scores on standardized measures of reading and math than they did in the year before co-teaching.

In an experimental study, Murawski (2006) examined students' academic outcomes in a ninth-grade English course across four instructional conditions: *general*

education only (a general education teacher taught a non-inclusive class of students without disabilities), *co-taught* (general educator and special educator teaching inclusive general education class), *mainstreamed* (general educator teaching inclusive general education class), and *special education only* (special educator teaching only students with LD in the resource room) at the beginning and end of one ten-week quarter of the school year.

For this study, the three participating ninth-grade English teachers were randomly assigned to teaching conditions in the same school. The 38 participating students with LD were assigned to an inclusive general education English class or the special education only English class prior to the study on an individualized basis. However, those students with LD who were assigned to inclusive general education classes were randomly assigned to either a co-taught or mainstreamed class. The 72 students without LD in the study were assigned randomly to one of these inclusive classes or the general education only condition.

Using a pretest- post-test group design, students' performance on standardized achievement measures was compared across the four instructional conditions at the beginning and end of the second ten-week quarter of the school year. The results of multi-level statistical analyses indicated that there were no significant differences in student performance on standardized post-test achievement measures in vocabulary, writing, reading comprehension, or spelling across groups.

Overall, results of existing studies examining student outcomes in relation to co-teaching do not provide clear answers about the efficacy of co-teaching as a service

delivery model for students with disabilities. The results of studies focused on *where* students receive special education services indicate that students who receive co-teaching in the general education classroom obtain similar, and in some cases superior, academic outcomes as students who receive services in separate settings (Bear & Proctor, 1990; Rea et al., 2002; Marston, 1996). The results of studies examining student outcomes both with and without co-teaching in the general education classroom suggest that students who are instructed by co-teachers can make significant academic progress in the grade-level curriculum (Hang & Rabren, 2009). Additionally, the results of some of these studies suggest that this progress may be greater than that made by students taught by one teacher across content areas (Fontana, 2005; McDuffie et al., 2009).

However, there are a number of limitations on the conclusions that can be drawn from results due to studies' methodology. First, only two of these studies were experimental in nature and thus allow for causal inferences between co-teaching and student outcomes to be drawn (Murawski, 2006; Fontana, 2005). The rest of the studies can be categorized as explanatory, as they compared student outcomes across existing instructional models without random assignment of students and teachers to conditions (Bear & Proctor, 1990; Rea et al., 2002; Marston, 1996; McDuffie et al., 2009; Hang & Rabren, 2009). Additionally, in the study where co-teaching and instructional methods were manipulated by the researchers, no comparison groups of students were included (Klingner et al., 1998). Thus, causal inferences about the relationship between co-teaching and student outcomes cannot be drawn from the results of these studies (Cook & Cook, 2008; Cook et al., 2011).

Additionally, clear inferences about the relationship between co-teaching and student outcomes are difficult to draw from these studies because they do not describe the exact nature of co-teaching and the fidelity with which it was implemented in participating classrooms (Gersten et al., 2005). This makes it difficult to discern whether co-teaching was actually occurring in these classrooms and, if it was, which specific elements were being implemented aside from the mere presence of a special educator alongside a general education teacher. Without this information, it is unclear whether or not student outcomes reported in these studies were actually related to co-teaching or simply to the presence of an additional teacher in the classroom.

Co-Teaching as a Service Delivery Model

Interpreting these results is particularly difficult in light of the fact that co-teaching is not simply an *instructional approach* for delivering grade-level instruction to heterogeneous groups of students in the general education classroom-- it is specifically a *service delivery model* through which students with disabilities who are included in the general education classroom receive the services outlined in their Individualized Education Programs (IEPs). As such, the purpose of co-teaching is to provide these students with the *specially designed instruction* outlined in their IEPs and guaranteed to them by federal special education law (Friend et al., 2010; Friend, 2016).

Specially designed instruction is instruction that is tailored to the individual needs of each student with a disability and designed to facilitate access toward the general curriculum as well as progress toward the individualized goals specified in his or her IEP (Friend, 2014; 2016; Riccomini et al., 2017). Because the specially designed instruction

outlined on each student's IEP is written with the student's present levels of performance, disability-related needs, and specific IEP goals in mind, it may differ from what is offered to other students of the same age or grade level in terms of content, methodology, instructional delivery, and/or assessment of student learning, and may include teaching in areas outside of traditional academics, such as behavior, vocational skills, and communication skills (Friend, 2014; 2016; Riccomini et al., 2017).

For the majority of students with disabilities, particularly those with high-incidence disabilities (i.e., specific learning disabilities, attention-deficit/hyperactivity disorder, speech and language impairments, mild intellectual impairment), specially designed instruction equates to using specific instructional strategies and techniques that learners without disabilities typically do not require (Friend, 2016). For these students, special education teachers have a legal obligation to use such *evidence-based practices*, or the instructional strategies and techniques that are supported by high-quality research as effective for students with disabilities (Council for Exceptional Children, 2014; Cook & Cothren Cook, 2011).

Extensive research on evidence-based practices defines effective special education instruction as *intensive, explicit* instruction of important concepts and skills that is carefully designed and continuously adjusted to meet individual student needs (Jones & Brownell, 2014; Riccomini et al., 2017). Explicit instruction follows a systematic process in which a special education teacher clearly explains new concepts, provides models and examples, and provides students multiple opportunities for controlled practice of newly learned skills and strategies with timely corrective feedback

(Archer & Hughes, 2011). With information gathered during these lessons, special education teachers make adjustments within a lesson and tweak instructional intensity over time in response to individual student need and response to instruction (Jones & Brownell, 2014). Importantly, this instruction is focused on developing students' proficiency in key concepts, strategies, and skills underlying school success, including the key components of reading (phonemic awareness, decoding, reading comprehension, and fluency; Gersten et al., 2008) and numerical operations in mathematics (Gersten et al., 2009).

There is clearly tension between this definition of co-teaching as a service delivery model for students with disabilities placed in inclusive settings and the generally accepted definition of co-teaching as an instructional model that simply merges the work of two educators in the same general education classroom. It is important to note that some of the literature on co-teaching has focused on co-teachers' collaboration as a means of meeting individual student needs. For example, a frequently-cited practitioner-focused article by Gately and Gately (2001) describes truly collaborative co-teachers as working together to set specific curriculum goals and objectives for each student in their shared class or classes and accommodate and modify instruction based on student need--both with an eye toward the IEP goals and objectives of students who have IEPs.

While articles such as that published by Gately and Gately (2011) suggest that co-teaching can facilitate individualization of the regular education curriculum and instruction to meet students' needs in the co-taught classroom, it is important to note that differentiation and the provision of accommodations are not equivalent to specially

designed instruction. Rather than simply facilitating students' acquisition of general education content, specially designed instruction clearly addresses individual student's disability-related needs using evidence-based practices and facilitates progress toward IEP goals and objectives (Friend, 2016).

The tension between the definition of co-teaching as an instructional arrangement and as a service delivery model is especially clear when one considers that actual co-teaching arrangements vary significantly across districts, schools, and classrooms from the idealized version described in much of the literature. In some cases, typically at the elementary level, general and special education co-teaching pairs work together in the same classroom with the same students for the entire school day. However, co-teachers may only be paired together for a single instructional period or academic subject during the school day. This predetermined instructional time may occur each school day or only on certain days of the school week, such as every other day or a few times per week (Friend & Bursuck, 2012).

Particularly at the secondary level, special educators may co-teach with multiple general education teachers across content areas or grades, serving the same group of students all day or rotating among different groups of students over the course of the day (Bessette, 2008). Scheduling of special education teachers into their general education co-teachers' classrooms is typically based on special education teachers' availability and the service delivery needs of students with disabilities within a school, grade level, or individual classroom (Friend & Bursuck, 2012).

Qualitative Studies of Co-Teaching Implementation

Aside from quantitative studies focused on student outcomes associated with co-teaching, a number of research studies have focused on examining the ways in which co-teaching is actually implemented in classrooms. These studies, the majority of which are observational, have suggested that co-teaching is actually implemented very differently from the models presented in the practitioner-focused, “how-to” literature previously discussed in terms of (a) the overall instructional approach and arrangement of co-teachers in the classroom and (b) the specific roles and responsibilities assumed by special educators.

Instructional approach and arrangement of co-teachers. Overall, observations of co-taught classrooms have failed to document the use of varied instructional models or methods in co-taught classrooms that are suggested in much of the literature on co-teaching (e.g., Weiss & Lloyd, 2002; Wexler et al., 2018). In an often-cited meta-synthesis of 32 qualitative studies on co-teaching in inclusive classrooms, Scruggs et al. (2007) found that instruction in such classrooms across the studies they synthesized was dominated by whole-group instruction utilizing a *one teach, one assist* co-teaching approach with the general education teacher providing instruction and the special educator providing support to students. In their descriptive summary of existing syntheses and meta-analyses on inclusion and co-teaching, Solis et al. (2012) similarly found that, across studies, the most typical instructional arrangement was one in which the general education teacher provided whole-group instruction to the class while the special education teacher provided support to individual students.

Studies have suggested that this may be true of even those teaching teams that have had time and experience working together. In observations of experienced co-teaching teams, Magiera, Smith, Zigmond, & Gebauer (2005) observed that special education teachers most commonly served to monitor students as they completed independent practice and assist students while instruction was being delivered to the whole class by the general education teacher in co-taught high school mathematics classrooms. Despite the fact that the ten co-teaching pairs in this study had been working together for between three and five years before the study was implemented, they rarely engaged in varied models of instruction such as team teaching or small group instruction.

Special education teachers' classroom role and responsibilities. Within the one teach, one assist arrangement, special educators have consistently been found to take on a very limited instructional role consisting of providing supplementary support to students during class time rather than providing any sort of substantial instruction. Rice & Zigmond's (2000) observations of secondary co-taught classes in ten schools in Pennsylvania and Australia indicated that classroom instruction was largely provided by general education teachers, with special education teachers circulating around the classroom to redirect and assist individual students and monitor such things as small group work and completion of assessments. Because the special education teachers in this study were relegated to such "monitoring" and "helping" roles within their co-taught classes, they were rarely observed in a teaching role, whether that was providing instruction to the whole group, to small groups of students, or as a team with their general education co-teachers.

In their observations of special educators working in co-taught classrooms, Zigmond and Matta (2004) obtained similar results in high school English and math classes. In the 14 schools where they observed a total of 41 co-teaching pairs, special education teachers rarely led instruction and were noted to spend most of their time in a supportive role, circulating to assist individual students or small groups of students. The majority of the special education teachers' contributions were what the authors labeled *substantive*, meaning that they were related to learning and knowledge. However, when *substantive* academic support for students was noted, it was noted to be brief and tied to a specific situation. For example, a special education teacher might assist a student temporarily experiencing difficulty with a particular task. Therefore, while the special educators in the study provided academic support to students with disabilities, they were not observed to provide them with substantial instruction or the sort of intentional, explicit instruction expected in special education.

In a study of special educators' instructional actions in co-taught general education classrooms, Weiss and Lloyd (2002) similarly observed six middle and high school special educators to support the work of the general education teacher by monitoring student behavior and helping students complete their assigned work. However, they did observe special educators serve in a teaching role, either to teach the same content as the general educator in a separate classroom in order to modify instructional delivery for a small group of students or to teach a different part of the same content in the same classroom to the entire class. However, the authors noted that, while they were providing instruction, these special educators were not observed to implement

the specialized instruction and supports known to be effective for students with disabilities. Interestingly, in the small group resource room setting where they taught small groups of students with disabilities, these same special educators were observed to provide instruction and design routines in pursuit of students' instructional goals, using such methods as direct instruction, strategy instruction, and class routines related to behavior modification.

Delivery of specially designed instruction. As described in the previous section, both the studies completed by Zigmond and Matta (2004) and Magiera et al. (2005) noted that special educators lacked opportunities to implement the types of instruction expected in special education in their co-taught classes. This has been noted throughout the qualitative literature on co-teaching.

In a well-known series of case studies of inclusive programs for students with learning disabilities (LD) across five states, Baker and Zigmond (1995) similarly observed that students received little of the intensive, remedial instruction known to be effective for students with LD, such as direct, individualized instruction, regular progress monitoring, and data-based instruction. While students with learning disabilities were provided with accommodations and modified materials, assignments, and assessments in the co-taught classrooms observed for the purposes of this study, these adaptations were not necessarily focused on meeting individual student needs. This led the authors to conclude that the students with LD were receiving a very strong *general* education in the co-taught classroom; however, because there was little use of the types of instructional practices known to be effective for students with disabilities such as individualized

instruction, they were not necessarily receiving a *special* education.

In their meta-synthesis of qualitative studies on co-teaching already described, Scruggs et al. (2007) came to the same conclusion. According to the studies they synthesized, while special educators implemented accommodations and created curricular adaptations to support students with disabilities in the co-taught general education classroom, these practices could not be considered providing students with a *special* education. They noted that, because special educators were working to support special education students and manage their behavior within an existing classroom structure designed and managed by the general education teacher, the studies they reviewed indicated there was little opportunity to implement the individualized instruction or specific practices required by students with disabilities.

The lack of specialized instruction for students with disabilities in co-taught classrooms has emerged in the literature as an area of focus in the last decade (e.g., King-Sears & Bowman-Kruhm, 2011; Friend, 2016). In a recent study aimed at documenting the extent to which evidence-based literacy instruction is provided in co-taught English Language Arts (ELA) classes, Wexler et al. (2018) conducted observations of 16 middle school teaching pairs. As in earlier studies, the special education teachers in this study were found to take on subordinate instructional roles within a one teach, one assist model. Importantly, while classes spent about half of their instructional time on literacy activities (reading aloud or reading silently), the authors observed that there was very little co-occurring literacy instruction. They noted that teachers were observed to provide very little “simultaneous instruction in strategies students could use to enhance their own

comprehension of text (e.g., main idea instruction)” (p. 395); in other words, the types of instruction known to be effective for students with disabilities.

Teachers may also recognize the limits on providing individualized instruction in co-taught settings as well. In a study of secondary special education teachers working in co-taught settings, King-Sears and Bowman-Kruhm (2011) surveyed 66 secondary special education teachers working in co-taught settings in grades six through nine across four states. Almost half of the teachers they surveyed expressed concerns that specialized reading instruction for students with learning disabilities was not occurring in their co-taught classes, such as that targeting decoding and comprehension skills.

Current Study

While these studies provide some indication that evidence-based practices associated with special education are largely absent from co-taught classrooms, the majority of these studies do not provide an in-depth description of the specific instructional practices special educators do and do not implement or how these compare to the evidence-based practices known to be effective for students with disabilities, including explicit instruction, opportunities for supported practice, and responsive feedback. Given the widespread use of co-teaching as a means of delivering instruction to students with disabilities, it is imperative that research be conducted to investigate the extent to which evidence-based practices are being utilized in co-taught classrooms. Therefore, this study analyzed the specific instructional actions of eight middle school special education teachers to examine the extent to which they implement evidence-based special education instructional practices during instruction in co-taught general education

classrooms.

This study also examined special educators' perceptions of their own roles and instructional practices in the co-taught classroom and factors that impact these two areas. In the qualitative literature, teachers have identified a number of factors that influence their overall implementation of co-teaching, including logistical factors like common planning time (Austin, 2001), scheduling issues (Weiss & Lloyd, 2002), and the co-teacher relationship (Rice & Zigmond, 2000). Special educators have also identified two main factors that they perceive limit their ability to take on more of an instructional role in the co-taught classroom, particularly at the secondary level: (a) issues associated with working on another teacher's "turf" and (b) lack of content knowledge.

In the qualitative studies reviewed by Scruggs et al. (2007), special education teachers attributed their subordinate instructional role to issues related to negotiating their place on another teacher's turf. Particularly at the beginning of the co-teaching relationship, special educators have expressed feeling out of place in another teacher's classroom, territory issues associated with entering another teacher's space, and difficulty delineating roles within the classroom (Salend et al., 1997). In the study conducted by Weiss and Lloyd (2002) already mentioned, special educators reported in interviews that their roles in the co-taught general education classroom were influenced by a number of factors, including acceptance by general educators in their school and scheduling pressures. While some teachers felt accepted by their general education co-teachers, others did not. The level of acceptance by general education co-teachers was reported to heavily influence the instructional role each teacher took on in his or her co-taught

classroom.

In Weiss and Lloyd's (2002) study, teachers also reported that their roles were influenced by the content area of the class they were co-teaching. In some classes, teachers reported that they did not feel confident enough in their knowledge of the content to work collaboratively as a team. In case studies of co-teaching in upper-elementary, middle, and high school content-area classes (science and social studies), Mastropieri et al. (2005) also found teacher knowledge of the academic content to impact instructional roles. They found that, when both teachers understood the content, they more equally shared instructional responsibilities. However, when the special education teacher did not have a firm grasp on the content, he or she was more likely to serve in the role of an aide, assisting with classroom management and assisting individual students.

As previously described, the secondary special education teachers interviewed by Rice and Zigmond (2000) indicated feeling that, because they were often viewed as occupying a lower status than other teachers within the hierarchy of their schools, they needed to prove themselves capable of teaching and making a contribution to the general education classroom. However, for many, lack of content knowledge in the subject areas they were teaching prevented this from happening and thus from taking on more substantive roles in their co-taught classes.

Special education teachers have noted that the impact of content area knowledge on their instructional roles in co-taught classrooms is situated within larger school structures that can either support or hinder instructional collaboration. In their case studies of a school wide co-teaching model in one urban middle school, Morocco &

Aguilar (2002) found that, while they did not provide instruction as often as their general education counterparts and engaged in more student assistance, the three special education teachers they observed in the co-taught setting demonstrated a degree of parity with their general education co-teachers and “contributed a full range of instructional roles” (p. 342) within the classes they co-taught. The authors ascribed the instructional coordination and equality of these partnerships to (a) special educators being considered full members of their interdisciplinary team rather than the special education team, (b) school wide structures that supported teacher collaboration across teams, (c) a school wide commitment to inclusion, and (d) professional development through which special education teachers could develop their content knowledge.

While these studies make connections between several factors and special educators’ general role in the co-taught classroom, they do not specifically address influences on the specific instructional actions taken by these teachers in co-taught classrooms. This study addresses this gap in the literature by exploring the connection between special education teachers’ roles, the instruction they provide in co-taught classes, and the factors they perceive influence both of these areas. This allows conclusions to be drawn about how special educators’ contexts may shape their instructional practice and thus the quality of instruction offered to students with disabilities in the co-taught classroom among a closely observed set of middle school teachers.

CHAPTER THREE: RESEARCH METHODOLOGY

Introduction

The purpose of this mixed methods study was to examine eight middle school special education teachers' perceptions of their instructional roles and the instruction provided for students with disabilities in the co-taught setting. This study also examined the extent to which these teachers actually implemented instructional practices known to be effective for students with disabilities in co-taught general education classrooms. This study therefore addressed the following research questions.

Research Questions

1. How do special education teachers describe their instructional roles and responsibilities in co-taught classrooms at the middle school level? What factors do they perceive influence their roles and responsibilities?
2. What are special education teachers' perceptions of the instructional practices used in their co-taught classrooms? What factors do they perceive influence the instructional practices used in their co-taught classrooms?
3. To what extent do special education teachers implement evidence-based instructional practices for students with disabilities in co-taught classrooms at the middle school level?

Research Design

In order to answer these questions, this study utilized a mixed-methods, multiple case study design. Case study is a type of "empirical inquiry that investigates a contemporary phenomenon (the "case") in depth and within its real-world context,

especially when the boundaries between phenomenon and context may not be clearly evident” (Yin, 2014, p. 16). Case studies therefore “provide an in-depth understanding of the cases or a comparison of several cases” (Creswell, 2013, p. 100), particularly in cases when the phenomena being studied cannot be manipulated by the researcher. This study utilized a multiple case study design to gain an in-depth understanding of the instructional practices utilized in co-taught classrooms as well as special education teachers’ perceptions of this instruction and their own roles in co-taught classrooms during the 2016–2017 school year.

It is important to note that case study as a type of research inquiry draws on multiple sources of information, typically involving both direct observation of the phenomena being studied and interviews with individuals who are directly involved (Yin, 2014). This study drew on three data sources: (a) videotaped lesson observations, (b) teacher surveys, and (c) individual teacher interviews. While some contemporary texts describe case studies strictly as a qualitative research approach (e.g., Creswell, 2013), it has been asserted that because case study inquiry “relies on multiple sources of evidence, with data needing to converge in a triangulating fashion” (Yin, 2014, p. 17), this method of inquiry can include both quantitative and qualitative data sources (e.g., Yin, 2014).

In this study, a qualitative approach was required to answer the first and second research questions and examine special educators’ perceptions of their roles and the instruction provided in co-taught classrooms, as well as factors that shape both of these areas. This was achieved through individual analysis of participants’ survey responses and thematic analysis of responses obtained during individual interviews. Such

qualitative analysis allowed for in-depth understanding of each participants' perceptions of his or her school and classroom context, instruction, and role in the co-taught classroom, as well as cross-case analysis (Creswell, 2013).

Addressing the third research question required a quantitative approach to examining the extent to which the special education teachers implement evidence-based instructional practices for students with disabilities in their co-taught classrooms. This was executed by a descriptive analysis cataloguing classroom instructional practices using a standardized observation protocol, the Quality of Classroom Instruction instrument (QCI; Doabler et al., 2015).

Participants

The study sample consisted of eight middle school special education teachers working in public middle schools (grades six, seven, and eight) in Rhode Island. These teachers were recruited from the larger sample of a research project being conducted on special education teacher evaluation. Funded by the Institute for Education Sciences (#R324A150231), this multi-year study collected data from a sample of 80 special education teachers in grades three through eight during the 2015–2016 and 2016–2017 school years.

From this larger sample, a subset of special education teachers were identified for inclusion in this study if they provided instruction in the co-taught classroom for at least one instructional period per day during the 2016–2017 school year. These individuals were invited via email to participate in an interview during the summer of 2017. Of the 22 participants invited, 12 chose to complete interviews, including eight middle school

teachers and four elementary school teachers. The eight middle school special education teachers were the focus of this study.

The sample of the present study was restricted to teachers at the middle school level so that comparisons could be made across cases. In the United States, schools with middle grades (grades six, seven, and eight) typically operate according to structured schedules in which teachers have equal blocks of time for instruction in each academic subject they teach with classes of students that rotate between teachers. This is distinct from elementary schools, where teachers often work in self-contained settings and teach the same group of students all day, with less structured or longer blocks of time for instruction (i.e., classroom literacy instructional blocks may range from 30 to 90 minutes per day). Restricting the participants in this study to middle school special education teachers allowed comparisons to be made and conclusions to be drawn across classrooms, teachers, and schools, with the general assumption that all special educators involved in the study had similar amount of time in each class that was observed.

Participant Recruitment

Once IRB approval was obtained, the principal investigator of the larger study emailed all study participants meeting the criteria of co-teaching at least one instructional period or block per school day to invite them to participate in an individual interview further exploring experiences in co-teaching. A letter explaining the current study was attached to this email (Appendix A). Teachers were asked to reply to the email to indicate willingness to participate or to ask any clarifying questions they had about the current study. Teachers who chose to participate were told they would receive a \$25 honorarium

for their time. The email explained that each interview would take approximately 60-90 minutes.

Emails from participants expressing interest in an interview were forwarded to the author of the current study, who emailed participants to answer specific questions about the interview process and set up a date, time, and location for the interview. The author of the current study also sent a follow-up recruitment email to participants who did not respond to the initial email (Appendix B).

Data Collection

Data were collected in three ways: (a) teacher surveys, (b) individual teacher interviews, and (c) video recorded lesson observations.

Teacher surveys. In order to address Research Questions 1 (How do special education teachers describe their instructional roles and responsibilities in co-taught classrooms at the middle school level? What factors do they perceive influence their roles and responsibilities?) and Research Question 2 (What are special education teachers' perceptions of the instructional practices used in their co-taught classrooms? What factors do they perceive influence the instructional practices used in their co-taught classrooms?), participating teachers completed two online surveys and an individual in-person interview.

As part of their participation in the larger study, each teacher completed an online survey at the start of participation during the 2016–2017 school year. This survey was developed by research staff and assessed a wide range of factors related to teacher demographics, credentials and work history, job structure and responsibilities, and

perceptions of current school working environment (see Appendix C for fall teacher survey).

Information provided by teachers related to demographics, teaching credentials, and teaching background/history were used to describe the overall sample. Information related to current job structure and responsibilities, including time spent in different classroom settings (e.g., co-teaching in the general education class, instruction in small groups in a separate setting) and subjects taught (e.g., reading, writing, math, science, life skills) was used to understand the structure of each teacher's job and instructional responsibilities during the 2016–2017 school year.

Elements of school working environment probed in this survey included special education teachers' perceptions of collaborative planning and use of planning time, administrative support, availability of instructional and curricular resources, collegial interactions with special education and general education colleagues, school culture, and teacher autonomy in general education and special education classroom settings. This information was used to broadly understand each teacher's perception of the context within which his or her work was situated during the 2016-2017 school year, including factors identified in the literature as related to teacher satisfaction and longevity in the role (Bettini et al., 2016).

All teachers also completed a significantly shortened version of this same survey in the spring or summer of the 2016–2017 school year, after completing all lesson observations (see Appendix D for the spring teacher survey). Teachers participating in the larger study who worked as co-teachers for any portion of the school day during this

school year were also prompted to complete survey questions specifically examining their involvement in co-teaching. Survey questions related to co-teaching were developed by the author of the current study in order to assess factors cited in the relevant research literature as relevant to the implementation of co-teaching, such as perceived division of responsibilities, amount of planning time and perceived compatibility between co-teachers (e.g., Austin, 2001; Scruggs et al., 2007; Murawski & Lochner, 2011). The purpose of this survey was to gather information on each individual teacher's co-teaching context and his or her perceptions of co-teaching at the individual level to inform the multiple-case study design of this study, rather than to be quantitatively analyzed. Therefore, development of this survey utilized existing literature and assessments designed to help educators self-assess and refine their co-teaching practice (Salend, Gordon, & Lopez-Vona, 2002; Maryland State Department of Education, 2011; Villa et al., 2013; Council for Exceptional Children, 2016).

This survey asked teachers to provide information on each co-teaching situation (i.e., each general education teacher with whom they co-taught) during the 2016–2017 school year in reading/ELA and/or math. This included basic contextual information, including number of years teaching with a given co-teacher, subject(s) taught, and amount of co-planning time per week. This also included questions that probed special education teachers' perceptions of their co-teaching situation, including perceptions of involvement in planning, co-teacher compatibility, co-teacher relationship, division of roles and responsibilities in the co-taught classroom, and administrative support for co-teaching. The teachers in this study each completed either one or two co-teaching

surveys. See the spring survey in Appendix D for the questions related to co-teaching.

Teacher interviews. The eight teachers participating in the proposed study participated in a semi-structured individual interview with the author during the summer of 2017. The purpose of this interview was to understand each special educator's perceptions of his/her work in the co-taught classroom, as well as of the instruction offered to students in this setting.

During their interviews, teachers were asked about the overall structure of their job during the 2016–2017 school year, including classroom settings where they taught and the groupings/distribution of students with disabilities across these settings. Teachers were also asked to describe the role(s) they perceived they took on during the school year in each of their co-taught classes. Teacher responsibilities prior to and during instruction were probed. During interviews, I also asked teachers to describe the instruction provided in these classrooms, including how they and/or their co-teacher determined *what* and *how* to teach in each class. Teachers were also asked to describe instructional practices they feel are effective for students with disabilities and then to describe the extent to which they believe they are able to implement these practices within their co-taught classes. I asked teachers the same set of questions about each of the co-taught classes in which they worked during the 2016–2017 school year, as well as for their small group classes.

The interview guide consisted of a series of open-ended questions and topics of discussion, with probes to be used as needed throughout each individual interview (see interview guide in Appendix E). Development of the interview guide followed the process for developing interview questions and in-depth interviewing set forth by Yeo et

al. (2014) that provides structure with flexibility to “enable the interviewee to raise issues and shape the content of the interview” (p. 184) to a certain degree. In order to individualize each teacher’s interview, I reviewed each participant’s survey responses and video recorded lesson observations before the interview took place. Review of survey responses allowed me to gain a general understanding of each teacher’s job structure and school setting before beginning the interview. I also used information from video recorded lesson observations to personalize interviews by asking about specific instructional practices noted during lesson observations, as needed. Individual interviews varied in length and content, as follow-up questions and probes were chosen based on participant responses during each interview. All participants were asked all of the core questions included on the interview protocol.

Interviews took place at a location chosen by each participant during the months of July and August 2017. Locations included school classrooms, fast casual restaurants/cafes, a public library, a pool and tennis club, and one at a school district central office building. Interviews lasted between 46 minutes and 74 minutes in length. Interviews were recorded using an audio recorder. After each interview, the audio file was transferred from the recorder to a secure drive and transcribed.

Video recorded lesson observations. In order to address Research Question 3 (To what extent do special education teachers implement evidence-based instructional practices for students with disabilities in co-taught classrooms at the middle school level?), I compiled and analyzed video recorded lesson observations of participating special educators, completed as part of the larger study.

As part of this larger study, research assistants recorded all participating teachers implementing reading/English Language Arts (ELA) and/or mathematics instruction on four separate occasions during the 2016–2017 school year. Lesson observations took place in the classroom setting or settings to which each teacher was assigned for that school year. Therefore, observations were conducted in a variety of different special education classroom settings, including co-taught general education classrooms and resource room/small group pull-out classroom settings. To the greatest extent possible, video recorded observations for teachers working in multiple settings were distributed across these settings to accurately reflect the individual teacher’s instructional responsibilities. For example, teachers who provided instruction for 75% of the day in the co-taught general education setting and 25% of the day in a resource room or small group pull-out setting, three observations were conducted in the co-taught general education classroom and one was conducted in the resource room/pull-out classroom. Table 1 on the next page reflects the characteristics of lessons analyzed for the purposes of this study by grade level, subject area and classroom setting type.

Lesson observations were scheduled in advance with each teacher by a research assistant to ensure instruction would be occurring during each observation. Efforts were made to record lessons across the school year, while avoiding scheduling lesson recordings during the early part of the school year (September-October), the end of the school year (late May-June), around holidays, and near testing windows, to limit bias associated with those times of year.

	LESSON #1			LESSON #2			LESSON #3			LESSON #4		
John	Grade 7	Math	Co-Teaching	Grade 7	ELA	Co-Teaching	Grade 7	ELA	Small Group	Grade 7	Math	Small Group
Dawn	Grade 6	Math	Co-Teaching	Grade 6	Math	Small Group	Grade 6	Math	Co-Teaching	Grade 6	ELA	Co-Teaching
Judy	Grade 6	Math	Co-Teaching	Grade 7	ELA	Small Group	Grade 6	ELA	Co-Teaching	Grade 6	ELA	Small Group
Maria	Grade 7	ELA	Co-Teaching	Grade 6/7	ELA	Small Group	Grade 7	ELA	Co-Teaching	Grade 7	Math	Co-Teaching
Katherine	Grade 6	ELA	Small Group	Grade 6	ELA	Co-Teaching	Grade 6	Math	Small Group	Grade 6	Math	Co-Teaching
Melissa	Grade 6	ELA	Co-Teaching	Grade 6	Math	Co-Teaching	Grade 6	Math	Small Group	Grade 6	Math	Co-Teaching
Joanne	Grade 6	ELA	Co-Teaching	Grade 6	Math	Co-Teaching	Grade 6	ELA	Small Group	Grade 6	ELA	Co-Teaching
Linda	Grade 7	Math	Co-Teaching	Grade 7	Math	Co-Teaching	Grade 7	Math	Co-Teaching	Grade 7	Math	Co-Teaching

Table 1. Lesson Observations by Grade Level, Subject Area, and Setting Type

Video recordings were completed by a research assistant operating a tablet paired with Swivl equipment that rotates to follow the special education teacher during classroom instruction. A small portion of the teachers video recorded their own lessons using the Swivl technology after a tutorial from a research assistant. Portable microphones were used to capture teacher and student voices during instruction. In co-taught settings, every effort was made to capture the work of the special education teacher as well as the general education co-teacher on video, in addition to students involved in the lesson. In these classrooms, both teachers wore a portable microphone during the recorded lesson to capture all audio. An additional microphone was also placed amongst students to record student voices during the lesson, when possible.

Because all participating teachers were told to provide instruction during video recordings sessions as they normally would, it is presumed that each lesson recording represents an example of teacher practice as it typically occurs during the school day. Each video recorded observation represents an entire ELA/reading or math lesson. For each recorded lesson, the special education teacher completed a brief lesson cover sheet with contextual information, including student information (grade level of the students, number of students with and without disabilities in the class), lesson objective, rationale and context for the lesson, and curriculum used in planning the lesson, if any. On this form, each teacher also indicated the instructional setting as resource room, substantially separate, or co-teaching. Teachers who chose co-teaching as the instructional setting were prompted to indicate the specific co-teaching model being used, as (a) parallel teaching, (b) centers, (c) small group, (d) team teaching, or (e) one-teach/one-assist. Teachers were

able to complete this form on paper, electronically, or as a Google Form response. See Appendix F for the lesson cover sheet.

Once collected, research assistants uploaded videotaped lessons to a secure drive at Boston University and catalogued according to teacher, school, district, subject area, instructional setting, student grade level, and date of the lesson.

Data Analysis

Survey analysis. I analyzed participants' responses on the fall and spring surveys at the individual level to collect information on each individual participant's demographics, background information, school information, and general job roles and responsibilities for the 2016–2017 school year, as well as teacher perceptions of their school context during that school year. I also analyzed teacher responses on the co-teaching survey individually to provide information about each participating teachers' co-teaching situation(s) during the 2016–2017 school year. This provided background information on each teacher's specific co-teaching roles and responsibilities, as well as perceptions of co-teaching (planning time, relationships with co-teachers, and division of responsibilities within co-taught classes) in classes where they were filmed for the purposes of this study.

Information from all three surveys was analyzed qualitatively and compiled to create an individual profile for each participating teacher. Surveys were not analyzed quantitatively to understand the responses of the group of teachers participating in this study as a whole.

Interview analysis. After all interview data was collected, I analyzed transcripts of participant interviews using NVivo qualitative data analysis software. I coded all interview data and completed thematic analysis to identify patterns of meaning, or themes, within the data. This was completed using the six steps of thematic analysis outlined by Braun & Clarke (2006). This was an inductive, or bottom-up process, involving building knowledge from the data to develop larger themes and ideas (Ormston et al., 2014).

Phase 1: Familiarizing yourself with your data. The first phase of thematic analysis involves repeated reading of the data, so the researcher can “immerse” him or herself in the data to become “familiar with the depth and breadth of the content” (Braun & Clarke, 2006, p. 87). To do this, I first listened to the audio recording of each interview in order to transcribe the interview into written form. After initially transcribing each interview, I listened to the same interview again to edit for accuracy and to ensure each transcript was a verbatim account of the recorded conversation, including cues such as sighs and pauses, on the part of the interviewee.

After all of the interviews were transcribed, I re-read the transcript of each interview while simultaneously listening to the audio recording of that interview. The purpose of this reading/listening exercise was to thoroughly familiarize myself with the content of each individual interview as well as the overall data set. While listening to and reading each interview, I actively took notes directly on the transcripts to identify ideas of interest that emerged in relation to the research questions and overall topic of co-teaching.

Phase 2: Generating initial codes. In the second phase of thematic analysis, the purpose is to “work systematically through the entire data set, giving full and equal attention to each data item, and identify interesting aspects in the data items that may form the basis of repeated patterns (themes) across the data set” (Braun & Clarke, 2006, p. 89). In this phase, I transferred interview transcripts into NVivo qualitative analysis software. I then read each individual interview to search for initial patterns within the data and identify initial codes. After each interview was coded, I created a list of initial codes from all interviews. This list consisted of 94 codes.

I reviewed this list multiple times to organize the codes into an initial thematic framework. This involved sorting codes into larger categories and sub-categories and merging repeated codes, following the process outlined by Spencer, Ritchie, O’Connor, Morrell, and Ormston (2014). The initial thematic framework consisted of 88 separate codes organized under 16 headings. After creating the initial framework, I read each interview again and applied codes from this framework. During and after coding the entire data set, I revised the initial thematic framework to reflect newly emerging codes in the data. Throughout this process, I recorded thoughts and impressions of emerging higher-level themes in memos in a handwritten notebook.

Phase 3: Searching for themes. In the third phase of thematic analysis, codes are sorted into potential themes and coded data extracts within each theme are collated and reviewed to develop potential themes. At this point in the process, I collated all data extracts identified under each code within the organization of the revised thematic framework. I then reviewed the data extracts under each code for internal homogeneity.

Based on this review, I revised the thematic framework. This involved renaming codes, collapsing codes, and revising the arrangement of codes within the framework through multiple rounds of extract review and framework revision. Codes within the revised thematic framework were then reapplied to the data. This process was repeated, as I reviewed data extracts, revised the coding scheme and thematic framework, and reapplied codes to the data. The final thematic framework used for coding purposes consisted of 59 codes organized under ten headings (see Table 2 on the next page).

From the initial to final thematic framework, revisions to the overall organization of the framework were limited. The headings under which codes were organized remained generally consistent during the revision process, except for six headings that were either merged with other existing headings or removed because they were deemed irrelevant to the specific research questions of this study. During the process of repeated data extract review, revisions to the framework including renaming codes, moving codes within and across headings, and collapsing codes into one another to reflect developing understanding of the entire data set and larger themes. For example, under the heading titled “perception of factors impacting implementation of co-teaching,” the code “teacher philosophies/vision” was collapsed into the code “teacher compatibility.” When making this revision, I noted the need for one code to capture the influence of the general educator and special educator compatibility on the implementation of co-teaching, with shared philosophy and/or vision as one facet of such compatibility identified by participants in this study. This was a nuance to be noted and discussed in relation to the larger findings and themes of this study, rather than designated as a separate code.

Heading	Sample codes
Perceptions of co-teaching and factors that influence co-teaching	
Overall perception of co-teaching	<ul style="list-style-type: none"> - Parity with general education teacher - Conflict with general education teacher
Perception of teacher roles and responsibilities	<ul style="list-style-type: none"> - Behavior management - Implementing instruction - Curriculum development and planning
Perception of factors impacting teacher roles	<ul style="list-style-type: none"> - Special education teacher content area/curriculum knowledge - What the general education teacher prefers/allows
Perception of factors impacting implementation of co-teaching	<ul style="list-style-type: none"> - Teacher compatibility - General education teacher understanding of special education teacher role
Special education teacher response to general education teacher	<ul style="list-style-type: none"> - Special education teacher going with what general education teacher says - Special education teacher tries to convince general education teacher to do things differently
Perception of instruction for students with disabilities	
Perception of instruction in co-taught class	<ul style="list-style-type: none"> - Positive perception of instruction - Negative perception of instruction - Accommodation/modification to work
Implementation of effective instructional practices for students with disabilities	<ul style="list-style-type: none"> - Effective instructional practices for students with disabilities - Perception of ability to implement practices in co-taught classes
Perception of factors impacting instruction in general education classroom	<ul style="list-style-type: none"> - District curriculum - General education teacher preference/willingness - General education teacher understanding/acceptance of students with disabilities
Perception of small group instruction	<ul style="list-style-type: none"> - Addressing general education content - Addressing IEP skills
Writing IEPs	<ul style="list-style-type: none"> - Writing IEPs

Table 2. Final thematic framework

In order to begin developing potential themes, I reviewed data extracts under each code again and organized emerging thematic ideas in a large, hand-written map. This map was complex and detailed, drawn as a series of interconnected webs depicting developing thematic ideas in relation to this study's three research questions as well as the relationship between connected ideas. This map included a wide range of emerging thematic ideas in addition to information pulled directly from coded data extracts in order to remain close to the data and represent the range of responses provided by participants during interviews. On this map, I visually represented the hierarchical arrangement of participant responses and emerging themes using a color-coded system. It is important to note that, at this point in the analysis, I focused on organizing information from the coded data in order to develop lower-level themes directly from participant responses rather than higher-level, overarching themes.

This was done intentionally to ensure an inductive, bottom-up analysis that allowed participant experiences in co-teaching to be organized categorically and reported as study findings in conjunction with development of overarching, higher-level themes that were developed through ongoing memo writing. Given the dearth of literature addressing the factors that influence special educator's roles and instructional practices in co-taught classrooms described in Chapters 1 and 2, it was essential that data analysis and the findings of this study focus on directly reporting special education teachers' experiences and perceptions in relation to the research questions.

Phase 4: Reviewing themes. During the fourth phase, candidate themes are reviewed and refined. First, I reviewed lower-level, categorical themes developed during

the previous phase in the thematic map. I then reviewed all coded data extracts within candidate themes to analyze the extent to which they “form a coherent pattern” (Braun & Clarke, 2006, p. 91) and revised the thematic map accordingly. Using these revised lower-level themes, data extracts, and the thematic map, I continued to note developing higher-level candidate themes related to each research question in this study in ongoing memo form. At this point in thematic analysis, the entire data set is reread to “consider the validity of individual themes in relation to the data set” and “whether your candidate thematic map ‘accurately’ reflects the meanings evident in the data set as a whole” (Braun & Clarke, 2006, p. 91). To do so, I re-read all interviews and noted any areas where data needed to be coded and added to emerging themes, data contradicted emerging themes, or new themes needed to be created. I revised the themes again according to this analysis. As in the previous phase, I fluidly moved back and forth between the thematic framework, thematic map, list of themes, and coded data extracts within each theme, making revisions as necessary.

Phase 5: Defining and naming themes. In the fifth phase, themes are defined and refined to identify the “essence” of each theme (Braun & Clarke, 2006, p. 92). In this phase, I again reviewed data extracts within candidate themes in conjunction with the revised thematic map. Based on this review, I wrote a brief narrative of each theme, identified sub-themes, and gave each theme a name. These themes and accompanying narratives formed the basis of the findings presented in Chapter 4. Using these brief narratives and the revised thematic map, I revised developing higher-level candidate themes related to each research question in this study in memo form.

Phase 6: Producing the report. In the final phase of thematic analysis, an analytic narrative is written “to tell the complicated story of your data” (Braun & Clarke, 2006, p. 93). Information from phases one through five of this analytic process were written up into a coherent narrative to tell the story of the data by theme and to answer each research question. At this time, I chose data extracts to exemplify each theme as well as the various nuanced aspects of each theme. These themes are presented as findings in Chapter 4. As previously described, these themes were largely categorical in order to report participant experiences and perceptions in relation to this study’s research questions. After addressing each research question, themes were reviewed and synthesized and higher-level, overarching themes developed throughout the analytic process were written into narrative form. These are presented in the discussion in Chapter 5.

While phases one through six were followed in order, the analytic process I followed was what Braun & Clarke (2006) identify as *recursive*, as analysis moved back and forth between the phases as needed. In order to develop and shape themes over time, analysis involved frequent movement between coded extracts, interviews, and emerging themes. Writing was therefore integrated throughout all phases of analysis, as I collected ideas and emerging themes in handwritten memos and notes throughout all phases of the process. In addition, as I was identifying and defining themes through various phases of this process, I drafted and continuously revised a narrative that eventually became the findings reported in Chapter 4. Based on my analysis, I used data and themes from interviews to inform the overall case study approach of this study. For each teacher,

themes emerging from interview data were combined with information obtained from analysis of video recorded lessons and teacher survey responses to understand his or her instructional story in a full and detailed way.

Lesson scoring. For each teacher who participated in the current study, video recorded lessons in co-taught general education classrooms and small group/pull-out classrooms were analyzed for implementation of evidence-based instructional practices for students with disabilities. This analysis was completed by a team of educators using the Quality of Classroom Instruction instrument (QCI; Doabler et al., 2014; 2015), an observation tool closely aligned with evidence-based special education teaching practices. This instrument outlines eight teacher behaviors that define quality instruction, including teacher modeling, instructional pacing, response time, transitions between activities, student engagement, learning success, checks of student understanding, and academic feedback. When this instrument is used to evaluate instruction, each behavior is rated on a scale of 1 (low quality) to 3 (high quality) in 15-minute intervals and scores are added together to provide a total score. See Appendix G for the QCI observation tool.

As part of the larger study of which the current study is a part, all video recorded lesson observations were rated using the QCI over a period of 11 months. Six trained raters scored a total of 321 lesson observation videos, with 20% double coded by two raters. At the beginning of the rating period, lesson observation videos were distributed equally across the six raters. During the course of rating, one rater removed herself from the project (month three) and a second rater requested a reduced number of videos (month four). Their remaining videos were distributed amongst the four remaining raters.

Throughout the 11-month rating period, raters uploaded their completed code sheets onto a secure server. Code sheets were evaluated by master observers for accuracy and completeness.

At the outset of the rating period, two doctoral students trained six raters in use of the QCI (along with other rating instruments) in an in-person training session over the course of one week. During the rating period, raters completed two calibration exercises. First, all raters were assigned a calibration video selected by master coders after every ten completed video ratings or every two weeks for the duration of the rating period. The purpose of this was to address rater drift over time during the rating period. Each calibration video was scored by master raters so agreement between their ratings and the ratings provided by each rater could be examined. An additional calibration check was conducted without the knowledge of the raters. Three of each rater's coded videos were randomly chosen and rated by master raters to compare agreement and accuracy of raters' scoring.

Trustworthiness and Credibility

I took several steps in order to maintain trustworthiness and credibility of the findings of this study. First, I incorporated triangulation of sources into the overall research design (e.g., Creswell, 2013). As previously described, data from participant surveys, interviews, and video recorded lesson observations were analyzed together to understand each participating teacher's instruction and perceptions of co-teaching in a full, rich way. While I analyzed survey and interview data, lesson observations were scored by a separate team of educators with no stake in the current study.

Throughout the data analysis process, I made efforts to conduct analysis and interpretation in a systematic and comprehensive way (as described by Braun & Clarke, 2006 and Lewis, Ritchie, Ormston, & Morrell, 2014). Particularly during analysis of participant interviews, I made sure all cases were included in the analysis and exceptions to larger themes and disconfirming evidence were considered and noted in the report. During analysis, I made efforts to draw conclusions directly supported by the data, as described by participants themselves, rather than based on my interpretations of their thoughts and ideas.

In addition, I incorporated peer review and debriefing throughout the data collection and analysis process to allow for “an external check of the research process” (Creswell, 2013, p. 251). This was done through meetings with dissertation committee members during all phases of the dissertation process. In addition, interview coding was reviewed by a doctoral student in education with training in qualitative analysis. This doctoral student reviewed participant interview responses, coded interviews, and data extracts, and provided me with feedback.

Finally, I attempted to maintain reflexivity throughout the research process. Reflexivity involves the author being consciously aware of biases and experiences brought to the research study as well as to his or her position on the issues under study (Creswell, 2013). I did this by first acknowledging and stating my position in relation to the content of this study and how this position may shape my interpretations of data and information. This is described in the researcher position section in Chapter 1. In an attempt to remain an objective observer specifically during interview analysis, I

purposely kept emerging themes and ideas related to the research questions close to participants' reports of their experiences before drawing higher-level conclusions that required my interpretation. When identifying higher-level themes and drawing conclusions from the data in the later stages of analysis, I re-read all interview data to actively search for evidence that may contradict my interpretation. Any such disconfirming evidence was used to revise higher-level themes identified in this report, and exceptions to themes were explicitly noted. In addition, information provided by a doctoral student who examined interviews and coded data extracts was carefully reviewed and incorporated throughout the coding and analysis process. Particular attention was paid to feedback that contradicted my individual coding and analysis.

CHAPTER FOUR: FINDINGS

Introduction

As described in the previous chapter, I analyzed participant responses on two surveys at the individual level to collect information on each individual participant's demographics and general job roles and responsibilities. In particular, teacher responses on the co-teaching survey were analyzed at the individual level to build participant profiles, including information specifically related to each teacher's co-teaching roles and responsibilities, as well as perceptions of co-teaching (planning time, relationships with co-teachers, division of responsibilities within co-taught classes) in classes where they were filmed for the purposes of this study. In addition, I analyzed transcripts of participant interviews to identify patterns of meaning, or themes, related to each teacher's perceptions of his or her roles in the co-taught classroom as well as of the instruction offered to students in this setting. In order to address the actual instructional practices provided in co-taught settings, a team of trained educators scored each teacher's video recorded lessons in co-taught general education classrooms and small group/pull-out classrooms for implementation of evidence-based instructional practices for students with disabilities using a standardized rating instrument.

This chapter presents the findings of this study. The first part of this chapter includes participant demographic information as well as a description of the participants' job structures during the 2016–2017 school year. Findings are then organized by the research question to which they pertain.

Participants

The sample for this study consisted of seven female teachers and one male teacher, all of whom identified as White or Caucasian. At the time of data collection, these teachers had been teaching for between six and 26 years, with an average of 13.75 years. They had been teaching at their current schools for between two and 17 years. Five of the teachers who participated had been at their current schools for seven or more years. All of the participants held a Bachelor's degree in education (special education, early childhood, elementary, and/or middle grades education), and seven held Master's degrees (four in special education, one in literacy, one in teaching English Language Learners, and one in special education and teaching English language learners). See Table 3 (next page) for demographic information.

All of the teachers who participated in this study worked as special education teachers in public schools in the same state during the 2016–2017 school year. They all taught the middle school grades (sixth through eighth grade). All of the teachers but one taught one grade level during the school year. One teacher had a split role between two grade levels. Seven out of the eight teachers taught in traditional middle school settings (schools specifically for students in grades six through eight), while one teacher taught in a kindergarten through sixth grade school.

All eight of the teachers indicated their primary role during the 2016–2017 school year was co-teaching in the general education classroom to provide academic support for students with disabilities. All of these teachers co-taught in both English Language Arts (ELA) and mathematics classes. Three of the teachers also taught in the additional subject

PARTICIPANT²	RACE/ETHNICITY	GENDER	HIGHEST LEVEL OF EDUCATION	YEARS TEACHING TOTAL	YEARS TEACHING IN CURRENT SCHOOL
John	White/Caucasian	M	Master's	4-10 yrs.	4-10 yrs.
Dawn	White/Caucasian	F	Master's	>10 yrs.	4-10 yrs.
Judy	White/Caucasian	F	Master's	>10 yrs.	>10 yrs.
Maria	White/Caucasian	F	Master's	>10 yrs.	>10 yrs.
Katherine	White/Caucasian	F	Master's	>10 yrs.	>10 yrs.
Melissa	White/Caucasian	F	Master's	4-10 yrs.	1-3 yrs.
Joanne	White/Caucasian	F	Bachelor's	4-10 yrs.	4-10 yrs.
Linda	White/Caucasian	F	Master's	4-10 yrs.	1-3 yrs.

Table 3. Demographic Characteristics of Participants

² Participant names are pseudonyms.

areas of social studies and science. The specific number of classes per school day within each content area depended on the structure of each teacher's role for the particular year in which they were involved in this study. This meant that the number of general education co-teachers and groups of students with which each participating teacher worked varied according to his or her assigned class schedule. The teachers participating in this study worked with at least two, and as many as four, co-teachers during the school year. In addition, all of the teachers spent at least one instructional block per day teaching in a small group, pull-out setting with some or all of the students with disabilities from their co-taught classes. The teachers in this study had been working with their co-teachers for between one and 12 years, including the year in which the study took place. See Table 4 on the next page for job characteristics of individual study participants related to co-teaching.

In their interviews, all teachers indicated working with students with disabilities whose Individualized Education Programs (IEPs) required participation in inclusive general education classrooms for the majority of the school day. The majority of these students also required additional support in the small group special education setting. In descriptions of their school's special education programs during individual interviews, teachers reported working with students with mild to moderate disabilities who were working toward grade-level academic standards. In their co-taught and small group classes, these teachers therefore did not report working with students accessing academic standards significantly below grade level or addressing alternate content, such as life skills.

PARTICIPANT	SCHOOL	GRADES TAUGHT	CO-TAUGHT CLASSES	NUMBER OF YEARS TEACHING WITH EACH CO-TEACHER³
John	Middle school	7 th	ELA, math, science, social studies	ELA: 1-3 yrs. Math: 1-3 yrs.
Dawn	Middle school	6 th	ELA, math, science, social studies	ELA: - Math: 4-10 yrs.
Judy	Middle school	6 th	ELA, math	ELA: - Math: -
Maria	Middle school	6 th , 7 th	ELA, math	ELA: >10 yrs. Math: >10 yrs.
Katherine	Elementary (K-6)	6 th	ELA, math, science, social studies	ELA: 1-3 yrs. Math: >10 yrs.
Melissa	Middle school	6 th	ELA, math	ELA: 1-3 yrs. Math: 1-3 yrs.
Joanne	Middle school	6 th	ELA, math	ELA: 1-3 yrs. Math: 1-3 yrs.
Linda	Middle school	8 th	ELA, math	ELA: 1-3 yrs. Math: 1-3 yrs.

Table 4. Job Characteristics of Study Participants for the 2016–2017 School Year

³ Number of years co-teaching with each co-teacher, including the 2016–2017 school year

Research Question 1

How do special education teachers describe their instructional roles and responsibilities in co-taught classrooms at the middle school level? What factors do they perceive influence their roles and responsibilities?

In individual interviews, special education teachers described the roles and responsibilities they took on in their co-taught classrooms during the previous school year in three areas: (a) planning and curriculum development, (b) instruction, and (c) student assessment and grading.

Planning and curriculum development. Six of the eight special education teachers who participated in this study described an overall limited role in planning lessons and developing curriculum for one or more of their co-taught classes. These teachers shared that their general education co-teachers were largely responsible for the class content, so they completed much of the work related to developing curriculum, determining how district-mandated curriculum would be implemented, and creating daily lesson plans. The special education teachers described their own role in this process as keeping up with already-completed planning and making adjustments or additions to this planning so that students with disabilities could access the class content. For example, when speaking about her co-taught classes, Maria shared:

So they're [general education teachers are] in charge of the content. They're in charge of the planning. All the time... I'm not in charge of the content, that's not my role at all. So I did a lot of modifying, a lot of modifying things so that the kids could be successful with the curriculum.

In their descriptions of responsibilities assumed during the curriculum development and planning process for each of their co-taught classes, teachers described how this perceived role was actually fulfilled in two main ways.

Keeping up with class content. Four of these teachers described their responsibilities related to planning as reviewing the general content of lesson plans written by their general education co-teachers in order to keep up with what would be happening in class each day. For some of these teachers, this involved meeting with their general education co-teachers to review the content of upcoming lessons. For example, Maria shared:

So generally what it is, is at the beginning when we first start the week, I think we meet on Mondays planning, they'll [general education teachers will] kind of tell me what's going on for the week. And then because, and I think maybe this will be different all across the board because I've been doing it so long and I've been doing it so long with these people, it really doesn't take a lot more planning than them saying to me this is what I'm doing this week. This is what I'm reading.

Because she has been working with her grade-level team members for so long, Maria explained that this brief preview of upcoming class content was sufficient enough to prepare her for each of her co-taught classes.

The other teachers who described a similar type of involvement in planning indicated that they kept up with class content by reviewing what would be happening in class each day, at times without discussing with their general education co-teacher. For his co-taught math class, John reviewed the district's scripted curriculum to know what

would be covered in class each day. He shared:

The planning for it [math class] was really easy because there was a... teacher workbook and it kind of scripted where you're supposed to be day by day, so I would... I had access to it, and I would just look at it, and we would have discussions about it, but we were pretty much on the same page cause we knew where we had to be.

Modifying what the general educator creates. Two teachers described participating in planning by reviewing lesson content designed by the general education teacher to make changes based on student needs. An example of this was seen with Joanne in her co-taught ELA class. For this class, Joanne's co-teacher kept her up-to-date with lesson plans and activities she planned to use in upcoming classes, and Joanne provided input and suggestions as she saw fit. Her input was often geared toward making instruction in their shared classes accessible for students with disabilities. She described an example of how this process played out with her ELA co-teacher:

She [ELA general education teacher] says, "Okay, this is our first unit for the first four weeks of school and this is what I'm thinking about using, flip through this." And I say, "Alright yeah that looks good," and then I start my special ed thinking and I see if I can find anything at a lower level or just different activities to go along with it. And we just kind of work it that way.

Katherine similarly described how, during her team's common planning time, she would "jump in and tweak" lesson content for her co-taught math class after it was planned by the general education teacher using the regular curriculum. When reviewing upcoming

lesson plans during her team's common planning time, Katherine would make recommendations to her math co-teacher such as, "We need to use smaller numbers, or we need to, you know use nice numbers. Not numbers that are going to have remainders, so on and so forth."

Collaborative planning. Although most special educators described generally limited roles in planning, there were several exceptions, as three teachers described collaboratively planning with at least one of their general education co-teachers.

Linda explained that she planned lessons with her math co-teacher after school on the phone or during the school day when they had overlapping planning periods. Because they had a standardized curriculum delivered to students through an online platform, they used this planning time to review the required curriculum content for upcoming classes and determine what tasks each of them would perform during these classes.

Judy described collaborative planning with both her ELA and math co-teachers. For her co-taught English class in particular, she described taking almost equal responsibility with her co-teacher to plan lessons and create materials for students. While they did not have common planning time in their schedules, the two teachers planned using shared Google Documents to which they both contribute, as well as texting and calling one another to discuss plans outside of school hours. She described this as "shared planning" with her co-teacher, wherein they communicate back and forth, each contributing ideas to the planning process.

In addition, Katherine explained how she collaboratively planned specifically with her the general educator in her co-taught ELA class. Because the general education

teacher was in her first year as an educator and Katherine was her mentor, they were given time to plan once per week outside of their team's common planning time. These two teachers worked together to review the mandated district curriculum and plan for upcoming lessons. Katherine described how this worked:

We had our own planning time, so we would plan. And again we had a curriculum we had to follow, which was given to us by the district. So a lot of the books that were given to us to read and to teach we really needed to tweak because they were too high of a level for our students to read, to understand. So her and I would kind of go through, pick out vocabulary that we would need to pre-teach about maybe themes and, and ideas that we would try to hit upon, so that what they would understand, as we were teaching it, they would get it.

Factors that impact special educators' roles in planning. As they described their roles and responsibilities related to planning and curriculum development in the co-taught classroom, the special education teachers involved in this study pointed to several factors that impacted and shaped these roles and responsibilities.

Planning time. In their interviews, five of the eight special education teachers indicated that they had dedicated planning time with their co-teachers during the school day. All five of these teachers described planning time that was scheduled for their entire team, including the general education teacher for each content area (English Language Arts, math, science, and social studies) and the special education teacher. For example, John had common planning time scheduled every other day and once per week after school with his team members, two of whom he co-taught with during the school day.

For all of these teachers, this planning time was meant to be dedicated to a variety of tasks aside from planning units and lessons, such as reviewing student 504 plans and IEPs or student data.

Because of this, several teachers indicated that this team planning time did not provide enough time for the special education teacher to co-plan with each of his or her co-teachers. An example of this was seen with Melissa, who expressed dissatisfaction with her lack of responsibilities related to planning in her co-taught math class, for which she described keeping up with the classroom content rather than being able to “build the curriculum together.” She attributed her limited role in planning and curriculum development to several factors, including that her team’s twice-a-week common planning time was not supposed to be dedicated to curriculum and planning, per the school administration, but rather to looking at student data such as scores on progress monitoring assessments. She referred to this as a “huge dilemma in our structure,” that prevented her from taking on more responsibilities related to planning with her co-teacher.

This lack of planning time led some teachers to do what Joanne referred to as “on the fly planning,” which was “informal planning” that occurred quickly before and after class and in short chunks of time before and after school, during which her general education co-teacher let her know thoughts on upcoming lessons and asked for her input.

Access to curriculum. In addition to the lack of dedicated planning time with her math co-teacher, Melissa shared that many general education teachers in her school felt that they needed to be in charge of the curriculum and were concerned with following the guidelines of their department to implement the district-wide curriculum appropriately.

While her general education co-teacher met with other math teachers to plan and discuss curriculum as a department, special education teachers were not included in these meetings. She felt her resulting lack of knowledge in the curriculum and how it was supposed to be implemented limited her ability to provide input and work as a partner in curriculum development and planning with her math co-teacher. This was strongly related to the structure of and support co-teaching provided in her school building. She shared:

I think that if you...if it wants to be truly co-teaching, that they really need to treat it as co-teaching and give the same amount of time to you know, to both teachers and, you know, if you want me to be responsible for the curriculum then you have to involve me more with it.

General education teacher control over planning. Several teachers who similarly expressed dissatisfaction with their limited involvement in planning explained the impact of the general education teacher's control over the planning process on their own role in planning and curriculum development. For one teacher, John, this was related to the time frame in which his ELA co-teacher planned lessons for their shared classes. John explained that he wanted to plan with this co-teacher, but her planning for class was approximately one to two days ahead of class. Therefore, most of the time he would only find out what would be happening in class on the day of the class. This did not give him enough time to provide input or make possible modifications to these plans.

Several teachers shared that their general education co-teacher's control over lesson planning directly shaped the extent to which they as special educators could be

involved and have input in this process. John explained that the time constraints on his involvement in planning for his co-taught ELA class was compounded by the fact that, when John presented ideas for lessons ahead of time, his co-teacher was not always “receptive” to them. He shared:

Sometimes I just had a good idea ahead of time and she would be receptive to it.

Other times she's like, “No I want to do it this way” and I would just [say], “Okay this is, this is your class.” So I didn't want to step on her toes either.

While she described working collaboratively with her math co-teacher to plan lessons, Linda similarly explained that, in her co-taught ELA class, she was not involved in planning at all because she was not given access to lesson plans, assessments, or essay prompts ahead of time by the general education teacher. She summed up the situation by stating, “You gotta work with what you're handed and that's what we're given.”

The significant influence of the general education teacher was not limited to those who negatively perceived their planning responsibilities or felt that their role was too limited. Even those teachers who were satisfied with their involvement in planning indicated that the general education teacher often mediated their role in this process. This was exemplified by Judy's in-depth description of her collaborative planning with both her ELA and math co-teachers. In ELA, she explained that her co-teacher respects and trusts her enough to allow her to contribute equally to lesson planning. She described an example of their planning process:

We both go our separate ways, we look at it, we research it, we find our ways, and I'll say, “I found this,” she'll say, “I found this.” She'll go, “Alright well let's start

with mine” or “Let's start with yours.” It never makes a difference because she's so willing to go either way. And we'll say, “Oh let's try yours for, um, for the first half of class and then let's rotate to mine for the second half.” And, so that's the respect piece. So, because of that I have full reigns.

Judy described her co-teacher allowing her to contribute so significantly to lessons as something that she has earned from her co-teachers and continues to earn every day through hard work and extensive planning. While the extensive preparation she does for all of her classes can be a lot of work, she explained that it is how she earns respect from her co-teachers to keep being allowed to contribute to lesson planning. She feels all of the planning is something she has to do, “because if I do it then she'll [general education teacher will] let me do it again, and, and then we have this respect, so I can't like drop it.”

Special educators' experiences of their roles and responsibilities related to planning and curriculum development. Special education teachers described experiencing their roles and responsibilities related to planning and curriculum development in a variety of ways. Several of the teachers were not satisfied with their overall limited role in this process and would have preferred to take on a more significant role in developing the curriculum and planning individual lessons with their co-teachers. For example, Melissa described being troubled by her lack of involvement in planning, particularly in her co-taught math class. When asked about how responsibilities for planning and curriculum were divided between her and the general education teacher in this co-taught class, Melissa shared:

It's really not. Other than when like it's time to do a test or a quiz, something like that. We usually talk about it and sometimes she'll [general education teacher will] be like, "Well this is what I'm going to do and if you want to modify it, go ahead." And then like maybe I'll decide I'm going to take these kids out this period and go work somewhere else. Those are more of the conversations we get to have. It's been less about being able to really build the curriculum together.

However, other teachers did not share such dissatisfaction and, in fact, indicated feeling that the planning that occurred was sufficient. For example, two teachers described feeling that their team's common planning time was enough to keep them up to date with what was happening in all of their co-taught classes so they could be involved during instruction. One of these was Katherine, who described her daily team planning time gave her and the general education ELA, math, science, and social studies teachers with whom she co-taught the time to look through the district-mandated curriculum and what they would be focusing on in class each week. While Katherine felt this allowed her to effectively keep up with what would be happening in each of her co-taught classes, it also provided the opportunity for all team members to keep tabs on their students, particularly during their scheduled double planning block each week. Katherine explained how this time was used by her team:

So we would always get to look at student work, grade student work, plan. So everything was, it was never a question of, "Well, how's he [a student] doing?" Because I never had to check with them [general education teachers]. They never had to check with me because we're always both there doing it.

Maria similarly felt that common planning time with her team was sufficient in allowing her to keep up with what would be occurring in her co-taught classes each day. In addition, for Maria, the day-to-day planning was simply not viewed as part of her role as the special education teacher in a co-taught model, as this was the responsibility of her general education co-teachers. When speaking about her co-taught ELA class, she explained:

She [general education teacher] was responsible for all the lessons. Oftentimes she would say to me, “Oh, here's two readings on such and such. Which one do you think would be better?” I mean definitely she asked for input and we did plan twice a week, I would meet with the whole team... but it was really generally up to, it is, it's up to them [general education teachers] to figure out what lessons they are going to teach to, to pinpoint what skills.

Because she viewed her general education co-teachers as responsible for the content of class and planning, she expressed that this was simply not part of her role as the special education teacher in those classes.

Instruction. When speaking about their roles and responsibilities during their co-taught classes, almost all of the teachers in this study indicated taking a supportive role during classroom instruction in one or both of their co-taught classes. In their interviews, seven out of the eight teachers described how the general education teacher took the lead instructionally during at least one class and their role consisted of supporting this teacher's instruction, as well as students' understanding of content being presented. This supportive role was described as being fulfilled in several different ways.

Providing students with general support. Teachers described spending at least part of their time during co-taught classes providing students with general support to make sure they were focused, on task, and following along during lessons. For example, Maria described her role in her co-taught math class:

To make sure that everybody got started, that make sure everybody was on the right page, to make sure everybody had a pencil. That was the first five minutes, to make sure that everybody was ready. And then just to help them follow along with what she [general education teacher] was teaching.

One teacher, John, described how this constituted his entire role in his co-taught English Language Arts (ELA) class. During this class, his main role was to circulate around the room and monitor student behavior, providing corrections and prompting as needed. He perceived that, because his co-teacher did not have effective behavior management strategies, he was “strictly there for behavior management because she couldn’t handle when they started to get off task.”

Jumping in to clarify, reiterate, and reinforce. Six of the teachers described supporting the instruction provided by the general education teacher during class time by clarifying, reiterating, and/or reinforcing this instruction to ensure students were understanding the content being presented. For many of these teachers, this consisted of adding on to what the general educator was teaching as opportunities came up during class, such as restating information in different ways and providing students with additional tips and tricks, such as mnemonics or acronyms to help them remember the material. Katherine explained how this was enacted in her co-taught math class, where

she sat with a group of students presenting with lower skills and added to the general educator's delivery of instruction as needed for the whole class:

I sat in a group and then any time that I felt as though she [general educator] was teaching, I would ask those stupid questions. I would be the teacher, I would be the student to raise my hand and say, "Well what about if this happened? Well what about if that happened? How would we come up with that answer?" I would do a lot of little acronyms, a lot of little, you know, hints to get the kids to remember different things. So everybody benefited from it. It wasn't just the kids with the IEPs.

For several teachers, this supportive instructional role included jumping in to clarify content for students as it was being presented by the general education teacher in class.

Dawn described how she did this in her co-taught math class:

So, if she [general education teacher] was teaching, like I would be the person that asked the questions when the kids are like, looking at her like, "What did you just say?" Or I know she's going way too fast, or I have a question, I really do, I'll raise my hand and say, "I really have this question cause I'm kind of confused."

And most of the kids had that question too.

Dawn described that her math co-teacher was "very good" with her interrupting instruction to do this. She felt this was especially helpful for students during math class, as there were times when her co-teacher may not have realized when students had misunderstandings because she likes and is strong in math herself.

In her co-taught math class, Melissa attributed the need for taking on a similar

role of clarifying information for students to the fact that the teachers and students were piloting a new math curriculum mandated by the district. Her role in this math class consisted of “a lot of clarification, making sure the kids understood what she [general education teacher] was even saying, or restating things in different ways” to ensure students understood this new way of doing math. This “restating” and “clarifying” also felt necessary because the general education teacher may not have been as clear as she needed to be for students to access the curricular content. She shared:

Because you know when you're new to teaching something you might not realize that you're not coming off as... clearest to the kids... they're trying to learn a new concept in a different way than they've ever been taught math. And even me, sometimes I'd have to be like, “Ok hold on, so what did you mean [general education teacher], like can you clarify that?”

While many of the teachers described taking on this role to ensure information was clear for the entire class, several indicated doing this to make ensure students with disabilities, in particular, understood the class material. For example, Joanne often sat in a small group with the students with disabilities in her co-taught ELA class to reiterate and reinforce instruction during the whole group lesson each day. When her co-taught ELA class was reading a class novel, Joanne would sit with this small group of students so they could listen to instruction being provided by the general education teacher, but she could also reread passages from the text, paraphrase and reiterate important concepts, and discuss the text with students to ensure they fully understood what was happening in the book. Rather than constituting an attempt to clarify what was not clearly presented by

the teacher, Joanne described how this was important in helping the students with disabilities in these co-taught classes to access the grade-level content that often “was really going above my kids’ heads.” She explained:

So like I'm, I'm thinking out loud for them. Like modeling thinking like, “Well maybe we should reread that.” Like just kind of guiding their thoughts so that they would be on the same page as the rest of the kids. The other kids, they could make those inferences and those predictions and they [the students with disabilities] really needed that guidance to get there.

Supporting students during independent practice and work time. While a majority of the special educators involved in this study indicated that they took on more of a limited role during the instructional portion of lessons, all but one described taking on a relatively more active role during the independent practice or student work time portion of lessons in their co-taught classrooms. During this time, teachers described supporting students to complete assignments and assessments, making accommodations and modifications to the work students were expected to complete, and reteaching and reinforcing information taught during earlier portions of the lesson.

Supporting students to complete assignments and assessments. Six of the special education teachers described supporting students in completing assessments and classroom assignments as a significant part of their role in their co-taught classes. They largely spoke about using independent student work time to circulate around the classroom and support students with disabilities as needed to ensure they understood what they were supposed to be doing and do what Joanne referred to as help “ensure that

they were completing assignments to their ability level.” This typically involved sitting down with individual students with disabilities to help them work through a given assignment on an as-needed basis, while also reinforcing any concepts they may not have understood during the whole group lesson.

The importance of this role was exemplified by Dawn, who used the timing of in-class assessments and assignments to determine how she dedicated her time across the various co-taught classrooms in which she worked. During the course of the school day, Dawn determined which class to go in to during a particular instructional block “depending on what they were doing in the classroom at the time.” She explained:

So if social studies was working on a report, I would jump into there because they needed me, more than math if they’re, say, doing notes, they don’t really need me for notes, or English if they’re reading out loud a book, I don’t really need to be in there because...they’re just listening to the teacher. I would go in if there was like big projects, if they were doing a writing assignment I would pull out, or assessments.

During these times when she was in her co-taught classrooms, Dawn took students with disabilities into small groups, sometimes outside of the general education classroom, to work on assessments and assignments together. Because of the length and complexity of many of these assessments, she used such strategies as presenting longer assessments in chunks and showing students where to find in their notes examples of how to complete certain math problems in order to help them complete all of the expected work.

Accommodating and modifying work. Six teachers also discussed accommodating and modifying assignments and assessments for students with disabilities in their co-taught classes as a part of their instructional responsibilities, often fulfilled during the independent practice portion of lessons in these classes. These accommodations and modifications were aimed at supporting students with disabilities in completing the assignments and assessments given to all students in these classes, as described in the previous section.

As an example, while working with students to complete assessments in her co-taught ELA class, Linda shared that she made accommodations while she walked around and checked in with individual students, such as reducing the length of an assignment or the amount of work a student is expected to produce. She described this as the following:

So they're doing a four-paragraph essay, I might like write on my student's paper, "only two paragraphs" and then I'll initial it. Or "only two required elements." If they're taking a test, I will go over and highlight certain questions that they need to answer and then I'll initial it, modifications made by me, and I'll initial it.

In addition to altering the length of assignments, these in-class accommodations were also given to students to reduce the complexity of the work they were expected to complete in their general education classes. For example, during assessments given in her ELA class, Dawn would strategically reduce the number of choices on multiple choice exams as students completed them. She shared:

Those assessments are very difficult...especially since the, they have four choices: A, B, C, and D and only one [answer] is like completely out, out of the

ordinary and then the other three are definitely it could be this, or it could be that one. So I try to X out the one that they might pick other than the right one.

Teachers also discussed how they provided students with supports they would need in order to complete grade-level assignments. Dawn described how, in her ELA class, she would provide students with page numbers in the class text where they might find evidence for their piece of writing. The same was true on math assessments, on which she would put notes that students could use as exemplars or models while working through problems, such as setting up division problems for them to begin.

Reteaching and reinforcing content. During independent student work time in their co-taught classes, three special educators described taking on more of a structured role to re-teach and reinforce what students had just been taught by the general education teacher. For example, Judy discussed how, in the math classes she co-taught, she took a small group of students with disabilities into her separate classroom to re-teach the lesson as needed. She shared:

My stronger special ed students don't, they only need that little bit. They just need me to go through the steps, teach them how to do it, break it down, give them feedback, extra practice, and then they can go off on their own.

For teachers who had very limited roles during the instructional portions of a class, this relatively more active role during independent practice was particularly important in giving them an opportunity to make content accessible for students with disabilities in their co-taught classes. An example of this was described by Linda in her co-taught ELA class. While she described a significantly limited role in this class that she

co-taught for only one period per day, Linda explained that, after her general education co-teacher provided instruction, she often pulled students into a small group to go over their independent work. For Linda, this was described as “when I can step in a little bit more and really sit down with my students in particular and go over it and modify it and find out where they're struggling so I can try to help them understand a little more.”

In Joanne’s co-taught math class, having this time to work in small groups with her students with disabilities during the independent practice portion of lessons allowed her to provide the type of instruction she believed these students needed to learn the grade-level content. After students listened to the whole group instruction provided by the general education teacher, Joanne used this time to work with her small group of students with disabilities to do what she called “[going] about it my own way that worked for my kids.” This included such things as providing additional examples and putting math problems up on the board for students to work through together with her support. This was especially important because Joanne had very little input into the content or methods of instruction in this class; during the independent practice portion of each lesson, she felt she was able to use the instructional strategies that were not permitted by the general education teacher during the course of regular instruction for the whole class.

Sharing instructional responsibilities. It is important to note that two of the teachers who participated in this study, Linda and Judy, described sharing instructional responsibilities during at least one of their co-taught classes. Rather than serving in a strictly supporting role during instruction, these teachers reported that they collaborated with their general education co-teachers to implement lessons with students. For

example, Linda described splitting the instructional role in her co-taught math class with the general education teacher:

[Math teacher] and I split the role so I will always do the...90% of the time I'll teach the first half and then he'll teach the second half being the core teacher. So I do the review from yesterday and check for understanding and then he teaches a new concept of the day. And then the next day I review the new concept and he teaches from there.

Linda described how she and her co-teacher work together throughout the lesson, so “if he's teaching I'll just jump in and we'll switch out roles, or if I'm teaching he'll jump in and we just constantly go back and forth like that.”

Similarly, when describing how instruction was implemented in the ELA classroom where she co-teaches, Judy described sharing responsibilities for leading instruction with her co-teacher on a day-to-day basis:

We work together and we finish each other's sentences, and some days I run, some days she runs with it. Some days I sit back cause maybe I'm just, dealing with another thing that day, or maybe I'm just exhausted, maybe it's just one of those days where like my brain is not working as fast as hers is. Then she runs with it, and I, and support her.

Special educators' experiences of their instructional roles. As with their roles in planning, some of the special education teachers involved in this study were dissatisfied with their role in instruction. For example, Melissa explained that her supportive instructional role in her co-taught classrooms, where she did not teach the whole group or

small groups of students, was part of why it “didn’t feel like it’s co-teaching.” She likened her role to “just being like a resource teacher,” which to her meant the following:

Being in the room and just coming in to work with them [special education students] and you know follow whatever she [general education teacher] had wanted them to do and making sure that they’re capable of doing that and how to get them to where they need to be.

Particularly for those who described limited roles during instruction, it was clear that they wanted additional opportunities to contribute to the lessons offered in their co-taught classrooms. This was exemplified by Linda, when speaking about how she preferred being in her co-taught math class over her co-taught ELA class, so she can actually take on a substantial instructional role. She shared the following about her ELA class:

I want a role. I want to be part of the children learning and their education. I don't want to just be the one that comes in and says, “Oh no, you don't have to do ten, you only have to do five [questions].” It's like...I'm just there to modify their work, but I don't want that.

John similarly spoke at length about wanting to do more than simply monitor student behavior in his co-taught ELA class, especially because he had a background in this content area and many ideas for instruction from his years as a teacher in a self-contained classroom. However, he felt that his ability to take on a greater instructional role was significantly limited in this class.

On the other hand, other teachers expressed general satisfaction with their

supportive roles in the classroom and felt that their co-teaching team worked well together, had a positive relationship, and provided strong instruction for students. Even for some of those who described less-than-equal instructional roles with their co-teachers, this was a positive working experience. An example of this was seen with Maria, for whom a supporting instructional role did not mean she could not or would not present material to students. She was very confident in her ability to implement the lessons given by the general education teacher but knew that this simply was not part of her role in the co-taught classroom. She explained:

You know, the funny thing is if she [general education teacher] said to me, “I have to go to the ladies room,” I could stand right up in the front and do the whole lesson...No problem because I've done it a million times. I've seen it a million times over and over and over again. But still, she was the, the lead teacher and I was the co-teacher.

Katherine expressed a similar idea when speaking about her co-taught math class, where the general education teacher was in charge of teaching the class content as the teacher of record and Katherine's role was typically to review the previous night's homework with the class and then jump in during the general educator's instructional delivery to add in ideas or suggestions as needed. With this model in place, Katherine felt that the students in their co-taught class “looked at both of us as teachers in the classroom...they knew we had different roles.”

Those teachers who described sharing instructional responsibilities with their general education co-teachers to implement instruction reported being very satisfied with

their instructional roles and feeling that they had equal status with their general education teaching partners in their shared classes. For example, Linda explained how she truly felt like a full teacher with the general educator in her co-taught mathematics class:

I see myself as a teacher...A lot of times when you go in as a special educator, I've been in rooms where I'm more like the teacher's assistant and I don't have a role in educating the students. Where in the co-taught math class, I know my responsibility is to teach the students.

She described how the collaboration with her mathematics co-teacher has even made it so that students are generally unaware that she is the special education teacher:

I mean it's, it's been successful for us. I only hope that there's other classrooms in the district that are as successful as we have been because I've definitely seen my students succeed with both of us. Like they don't look at me as a special ed teacher and 90% of 'em, if you asked 'em what my role was in the classroom, I'm just a teacher. Like they have no idea.

When speaking about her co-taught ELA class, Judy expressed a similar sentiment. She explained how she and her ELA co-teacher are “just so in sync” that students view her as an equal teacher with the general education teacher rather than in a subordinate position in the classroom.

While she described her role in her co-taught ELA classroom as primarily working in small groups with students with disabilities while the general education teacher led instruction, Joanne described having substantial freedom to jump in during lessons to present ideas to the class and being asked for her input on lesson plans and

designing assessments and assignments. As with Katherine, Linda, and Judy, she felt like an equal teacher with the general educator in their shared ELA classroom, as they shared responsibility for all students, including those with and without disabilities, in their classes. She explained:

It was really, really fun to teach with her [ELA general education teacher], and I'm excited to work with her again because we're just, it's almost interchangeable. There are times when she was absent and I would take, take over the class, like I would teach the whole lesson. The kids respected me and treated me the same way as if I were a classroom teacher. And I was able to deliver a lesson and then work with my kids [students with disabilities] in small group. And it worked seamlessly. So we're very interchangeable.

With their strong collaboration during instruction, Joanne felt that her and the ELA general education teacher were truly *co-teaching*, working in a way that school and district administrators would like to see. She shared:

What you saw in ELA is what they [administrators] want, that's what they're looking for. Someone that is like a team that's going to work seamlessly where someone could walk in and not know who the special educator is. Unless they're really watching closely.

Factors that impact special educators' roles during instruction. In their individual interviews, teachers identified a number of factors that shape the roles they take on during the instruction in their co-taught classes.

Teacher knowledge of curriculum. One special education teacher, Melissa, indicated that what she perceived as a limited role in instruction was based on her developing understanding of the school's curriculum. She explained that, during the school year in which this study was conducted, the curriculum was new to her, both because it was a curriculum newly implemented across the district but also because it was her first year teaching sixth grade. Melissa felt that her lack of knowledge of this new curriculum impacted her ability to take on more of an instructional role in that class, leading to her role consisting of clarifying and restating information that was presented by the general education teacher in this class. Melissa was hopeful that, with her developing knowledge of the class content, she would feel "way more confident in the material and how she [general education teacher] likes to present it" in future years and would be able to take on more instructional responsibilities.

What the general education teacher allows. As with planning, several of the special educators indicated that their instructional role in the co-taught classroom was heavily influenced by what they perceived their general education co-teacher would and would not allow them to do.

Several of the teachers who described sharing instructional responsibilities in their co-taught classes explained that this was something they were allowed, or given the ability to do, by their general education co-teachers. This was clearly exemplified by Judy, who described working collaboratively with her general education ELA to provide instruction in their co-taught class. She explained how she had status as an equal teacher in her co-taught ELA class because her general education co-teacher gave her "control"

in that classroom. She shared:

The way it works is because this teacher gives me that control. She'll [the general education teacher will] say, "Oh [special education teacher], you know all the answers, why don't you pick the groups today?" Or a student comes up to her and will say something like, "Oh what page should we read to?" "Um, I don't know, ask [special education teacher], she'll tell you." And, she gives me just as much equal answers, like being able to answer the questions or to teach the class, so the kids don't feel that there's a better like one [teacher], a stronger or better than the other.

General education teachers were also described as much more directly shaping the specific instructional roles of their special education co-teachers by when and how they allow them to take on responsibilities for instruction in the classroom. An example of this was explained by John, who shared that his role during instruction in his co-taught math class was typically to "just kind of police around and make sure kinds were on task, taking their notes, doing what they were supposed to be doing." However, at times, his general education co-teacher would "let" him take over instruction. He shared, "She let me do a whole unit once, and, she would monitor the class, so she would kind of do my job." While John viewed his instructional role as a supportive one in this class, the extent to which he could take on additional instructional responsibilities was determined by the general education teacher.

The influence of what the general education teacher will and will not allow on the special educator's instructional role is most clearly exemplified by those teachers who

reported fulfilling significantly different roles in two co-taught classrooms, depending on the general education teacher with whom they were working. One of these was Linda, who described sharing instructional responsibilities with her math co-teacher and feeling like an equal teacher in her co-taught math class, as the two teachers shared responsibility for the learning of all students. However, in her co-taught ELA class, she described her role as strictly supporting the students with disabilities while her general education co-teacher provided instruction. During this class, this consisted of what she described as:

Just walking around, making sure that if they're [the students] supposed to be on page four, they're on page four and they're not on page ten. Um, a lot of it's making sure that they're not playing on their phones, they're on task, they're paying attention to the directions and the instruction going on.

Linda attributed this very limited instructional role to her general education ELA co-teacher not allowing her to take on more responsibilities in that class. She shared:

I think it's all in the teacher preference too, like how much they want to let go to the special ed teacher...I feel like when I go into a different room, it's not my room, it's the teacher's room and they, I respect them as a classroom teacher. They need to respect me as a special ed teacher and allow me to...so if they don't allow us to do it then it's kinda hard to do anything but assist.

Teachers described knowing what they were and not allowed to do in different ways. For example, Joanne explained that her ELA co-teacher gave her the “freedom” to jump in while the general education teacher was providing instruction if she felt she could add to the lesson or present the ideas in a different way to the entire class.

Throughout her interview, Joanne attributed this to the fact that the ELA teacher has “really created an environment where I am very comfortable in jumping in to when she’s giving whole group instruction as the classroom lead teacher.” She explained that her co-teacher “didn’t get offended” if she jumped in and offered suggestions for instruction, asked for her input on upcoming lessons, and was always very receptive to her input and ideas. Joanne therefore felt comfortable taking on an instructional role, as this was something that was clearly allowed and even welcomed by her general education co-teacher.

However, she described her co-taught math class as “a horse of a different color” where she felt she did not have the “flexibility” to get up and teach in front of the class. Joanne attributed this to the environment created by the general education teacher, in which Joanne did not have access to planning or grading and her general education co-teacher was often resistant to incorporating her input and suggestions into the instruction in their co-taught class. Because of this, Joanne did not feel comfortable supplementing this teacher’s instruction during class and found that she really struggled to “find [her] spot in that room,” despite it being her second year working with that general education teacher. In this class, Joanne described her limited role in this class as the following:

I pretty much worked with my kids [students with disabilities]. I took my little corner of the world and let them listen to the whole group instruction and copy into their books what she wanted them to copy into their books. And then when it came time to have the kids do their independent work, I would work with them

together. I would reinforce skills, give them different examples, and put it up on the board.

General education teacher understanding of the special educator's role. The general educator's influence over the special educator's instructional role was related to the general educator's understanding of the special educator's role in co-taught classes. Joanne related her ELA co-teacher's understanding of her role as the special education teacher to her openness to having her take on a role in that classroom and creation of an environment where Joanne felt she could provide instruction to the entire class and provide input as needed, as described in the previous section. She shared:

I think [ELA teacher] made it that way because she understands where my kids are coming from because she has that special ed knowledge. She understands that I'm not there to step on toes or to just rework things for myself, that I'm there to make sure that my kids are understanding the material and she knows what they're not on grade level, and she's accepting of that.

Joanne explained how it was a different story in her co-taught math class where the general education teacher did not appear to understand her role as the special educator. In this class, when she made suggestions for instruction, her co-teacher "takes it personally" and could become offended. She explained how she saw this as a larger school- and district-wide problem, so she hoped all teachers would receive training in working collaboratively in a co-taught class. She explained why this would be beneficial:

Then teachers who don't have a special ed background will have a better understanding of what... a special ed teacher's role is within the classroom

and that we're not just there to step on toes and to tell you you're doing your job wrong. Because that's not what it is, and sometimes they take it like that. And it, it makes it hard for us [special educators] because we're just there to try to do what's best for our kids. And we're not there to make regular ed teachers feel like they're not adequate enough, that “Oh, we're here because you can't reach every student.” No, we're here because these kids really have a disability and no matter what you do on grade level, it's not going to reach them. They need something different.

General education teacher understanding and acceptance of students with disabilities. As is clear from Joanne’s statement above, the extent to which the general educator allows the special educator to take on an instructional role in the co-taught classroom was also reported to be rooted in the general education teacher’s understanding of students with disabilities. In addition, Joanne felt that her math co-teacher’s acceptance of students with disabilities in her classes was directly related to her own limited instructional role in the co-taught math classroom, as described in the previous section.

She shared:

[General education math teacher] was not as accepting of the fact that she had inclusion kids in her classroom. She's very old school, wanted to have like mainstream kids, everybody on the same level. She likes the kids to be able to kind of do things independently and it was, it's my second year working with her and it's still a bit of a struggle to kind of find my spot in that room.

She further explained:

So [math teacher] doesn't have the special background, um, and nor does she have any interest in it. So it's a little bit more walking on eggshells in there and just doing what I need to do for my kids.

As can be seen from these two quotes, Joanne felt that her co-teacher's openness to allowing her to take an instructional role in the classroom was also related to this teacher's special education knowledge and background in special education. Throughout their descriptions of their work with their co-teachers, four of the special education teachers involved in this study similarly mentioned the ease of working with teachers who had special education backgrounds and how a lack of background in special education could impact a general education teacher's ability to work collaboratively and openly.

When discussing this, Melissa pointed out the lack of preparation general education teachers have for co-teaching and working with students with disabilities:

For special ed we have to take you know, the regular ed course and the special ed course whereas, you know with a regular ed teacher, they don't have that special ed background and they don't, they're not forced to. And you, you know they have one class that talks about modifying assignments pretty much and that there's kids with disabilities. And, you know, that doesn't equate to being able to co-teach in a special ed setting.

Co-teacher compatibility. Five of the eight special education teachers in this study emphasized the importance of co-teacher compatibility, in terms of personality and teaching philosophy, in their ability to work together in the co-taught classroom. Judy

described:

The number one thing to do when you are working, co-teaching works when the personalities match. So no matter how good of a teacher you are, how good of an inclusion teacher you are, if you're personalities don't match, it's not going to work. It's, I don't think you can force it.

Maria emphasized how important it has been to work with teachers who have a compatible philosophy on children as she does. She attributed her success in working collaboratively with her grade-level team to their shared philosophy on children:

We all have similar visions about kids and where they come from and what they all need. They don't need to conform to a certain standard, they need to be themselves and you need to be able to come to where they are, in order to make them successful.

Development of co-teacher relationship over time. On a related note, two teachers described a positive perception of their own role in the co-taught classroom as the result of time spent working with the same co-teachers and development of a working relationship. For example, Linda shared that the relationship she had developed with her math co-teacher was what made the difference between her two classes, as this was the class in which she took on significantly more instructional responsibilities than her other co-taught class. In her co-taught math class, Linda explained that her and her co-teacher had developed a relationship over their three years together where they “actually co-teach,” which for her meant, “I'm not uncomfortable in the classroom, he's not uncomfortable with me in there, we really work well together.” For Linda, it was difficult

to describe concretely what this means, but that they simply “just lucked out” being paired together initially and then built a working relationship and certain level of comfort with one another “just over time.”

Maria similarly emphasized the importance of the time she has been working with the teachers on her team eight years). She attributed the “seamless” nature of the instruction provided by her and the general education teachers on her team, she explained:

It’s more, it’s seamless because it's been going on for so long. I think it would be completely different if it was something that I hadn't been doing with these same people for a long time.

Assessment and grading. Four of the special education teachers who participated in interviews as part of this study spoke about their roles in student assessment and grading in the co-taught classroom.

Three of these teachers described working collaboratively with a co-teacher in at least one class to grade student work. Both Katherine and Joanne described working with a co-teacher to look at and grade student work on a regular basis. For Joanne, this collaborative work allowed her to work with her co-teacher to assign grades based on individual student’s ability and effort, specifically for students with disabilities in their classes. She described this process:

We would collaboratively grade my students’ work. So it wasn't like, “Oh well you know it's less of an assignment so like can only get this much of a grade.”

You know, we were working collaboratively and saying, “Well you know what,

they are really working to their ability so rather than just give them a passing 70, you know they really put the effort in, and even though it's not grade level per se, it's their level and it's acceptable.” And they would get higher passing grades.

Linda described a similar role with one of her co-teachers, with whom she worked in the two to three days before grades were due at her school to go through student work and determine overall grades in the class they taught together. In this co-taught classroom, she described having input in the grades of all students in the class, not just the students with disabilities.

However, both Linda and Joanne indicated that the collaborative process of grading was restricted to one co-teaching situation. In contrast to the collaborative grading done in her co-taught math class, in her co-taught English classroom, Linda was simply given the course grades for the students with disabilities before they were finalized by the general education teacher. The purpose of this is to go through the grades of the students with disabilities and, “...see like, if so, if for whatever reason one of my students is failing, what did they do, what, what um modifications, accommodations did the classroom teacher make to help them succeed?”

For Joanne, in her second co-taught class, she described having been given no access to planning or grading by her general education co-teacher. She expressed concern related to the way assessments were graded for some students with disabilities by her math co-teacher, which she indicated could reflect a lack of understanding of the needs of students with disabilities. She shared of her role:

I can make comments about, “Oh you know on so and so's tests, they did all the work out but they just forgot to circle the answer and you marked it wrong.”

“Yeah they forgot to circle the answer, so it's wrong.” Knowing that they're a special ed kid with social emotional behavior needs. Totally set them off and oh well, what's good for the goose is good for the gander.

Melissa described a similar issue with her math co-teacher when students with disabilities were given grade-level assignments in their co-taught class. She related this to an overall lack of understanding of the abilities and needs of students with disabilities among many of the general education teachers in her school. She indicated that, in her school, grading was “a huge issue between special ed and regular ed” because many of the general education teachers felt that students with disabilities needed to be graded based on whether or not they were able to show proficiency with grade-level standards. However, as a special educator, Melissa believed that some students would not be able to perform skills at grade level and it was not fair to grade them based strictly on the grade-level standards when they were working several grade levels below. She shared, “It's not that they, you know just tried and failed and need more practice. It's they're never going to be able to do that skill.”

As with planning and instruction in co-taught classes, with this information provided by these teachers, it is clear that the way students with disabilities are graded in many classes is heavily influenced by the general education teacher. This was true even in instances where the special education teacher may have disagreed with how the student work was assessed and graded.

Research Question 2

What are special education teachers' perceptions of the instructional practices used in their co-taught classrooms? What factors do they perceive influence the instructional practices used in their co-taught classrooms?

When speaking about their co-taught classes in interviews, the special education teachers in this study shared their perceptions and opinions of the general instructional practices implemented in these classes. As with their descriptions of their roles in these classrooms, the teachers who participated in this study expressed a wide range of thoughts and varying opinions on the instruction and structure of these classes.

All of the teachers identified at least one positive aspect of the instruction implemented in at least one of their co-taught classes or shared a generally positive perception of the instruction in at least one of their co-taught classes. For example, Melissa expressed positive feelings about the way her ELA co-teacher structured their classes in the same consistent way every day, with an introductory activity, teacher-directed instruction, and then independent practice. She explained that, because every single class period was structured in the same way, students became familiar and comfortable with the routine.

Five of the eight teachers who participated in this study also described negative perceptions of the instruction provided in one or more of their co-taught classes. These teachers indicated that they disagreed with certain aspects of the way instruction was provided in a co-taught class, including such things as the way each class was structured or the pacing of instruction and student assignments. For example, Dawn described how

she disagreed with the length of some independent writing tasks given to students in her co-taught ELA class. In this class, the general education teacher expected students to independently write in their journals for 45 minutes. Dawn thought this reflected a lack of understanding of students' independent work stamina because "[the students] don't know how to write for ten minutes, never mind 45 minutes."

For several of these teachers, such negative perceptions of the instruction were directly related to the ways in which content was delivered to students. As did other teachers, John spoke about the "traditional lecture to class" instruction provided by the ELA general education teacher in their shared co-taught classes. This style of instruction was viewed as less than ideal in comparison to the instructional strategies special education teachers would use in their co-taught classes, if they were given the choice. He shared:

I felt like I could provide more of an insight as far as the curriculum because there's stuff that I worked on in college, there's stuff from when I was a self-contained teacher, strategies I would use for reading, a lot of individualized group assignments, so that way the kids were rotating around. But she was very much the traditional lecture to class... lecture to the class and they would have to kind of listen to her.

It is important to note that many of the special education teachers in this study expressed overall positive perceptions of the instruction in one of their co-taught classes, but negative perceptions in another, depending on the general education teacher with whom they worked in each class. For example, while Melissa spoke about the benefits of

the consistent structure of her ELA class and routine organization of all student materials in Google Classroom, as already briefly described, she spoke about how the less-structured nature of lessons in her co-taught math class could negatively impact student learning. In this class, the general education co-teacher incorporated technology and different websites into instruction on a daily basis, as well as lengthy class entrance tickets. Melissa felt that these extras took away from the time needed to teach the content required by their highly structured district math curriculum and became “counterproductive” and confusing for students, as it was difficult for them to keep up when they were constantly trying out new things in their math class.

Effective practices for students with disabilities. Aside from their general thoughts and opinions about the instruction provided in their co-taught classrooms, special educators were also directly asked during interviews about the extent to which practices that are effective for students with disabilities were implemented in each of their co-taught classes. First, all teachers were prompted to discuss what specific instructional practices they feel are effective for this population of students.

Opportunities for inclusion. When asked to name specific practices, two teachers spoke about opportunities for inclusion in co-taught general education classrooms as the most effective way to deliver instruction for students with disabilities. These teachers described the importance of giving these students opportunities to access and make progress in the general education curriculum, rather than separating them in self-contained classrooms where they may not have the same exposure to grade-level content. Joanne explained this using her past experience as a self-contained teacher:

I think co-teaching is great, I mean I taught a self-contained room so I know, I can see the difference. In a self-contained room you have a grade span, so they don't have the room, the resources, the teachers to have a dedicated sixth grade self-contained, a seventh grade self-contained, an eighth grade self-contained. They smush them all together. And I don't think that's fair because even though the kids are significantly below level they're not getting their grade level content.

In comparison to instruction in self-contained classrooms, Joanne explained the benefit of inclusion for students with disabilities:

So I think by putting them into these collaborative settings and inclusion settings they were getting exposed to the content. Granted they weren't retaining all of the information that their grade level peers were, but they were being exposed to it and they were getting it modified to their ability level. They were getting the same concepts in a different way.

Judy similarly explained that you never know what a student can do until they are given the chance to try, so it is critical for students with disabilities to have access to the grade level curriculum. She shared:

In the inclusion classroom, I need to make sure that each one of my students has access to the curriculum. To the common core standards. They need to be taught, at least introduced to it, at least, offered a chance to check it out. You can't just assume they can't do it. And it's not fair to give... to not provide them an opportunity to it. Because a lot of times, they can't, sometimes they can do things that you are like, "Wow I never thought they'd get that," but everybody's brain is

different.

Judy explained that, once students with disabilities are exposed to the grade-level content, “if they can't get it, then you need to scale back to what they can get and then build from there.” She explained how she did this in her co-taught math class, where she kept lesson materials with different access points to the grade-level curricular material handy in case they were needed during a lesson. If any student was unable to access the content of a given lesson after multiple attempts at re-teaching, she was able to draw on these resources to “go a step down” and have him or her work on similar content but at a lower grade-level standard during class.

Tools to be successful in inclusive classes. Several teachers spoke about the importance of providing students with disabilities the tools needed to navigate inclusive classes and the general curriculum. This included extra time to learn the grade-level curriculum, information presented in multiple ways, and opportunities to break multi-step tasks or assignments down into smaller pieces and guide students through each piece, such as when writing an essay.

Katherine spoke about the importance of teacher flexibility and creativity in co-taught classes to provide opportunities for students with disabilities to participate and demonstrate knowledge in different ways. This involves an understanding on the part of the general education teacher that “everybody is not going to be able to produce that same piece of work,” so there needs to be “wiggle” room in expectations and assessments of student performance.

Across the board, teachers pointed to a number of practices that would generally

be classified as accommodations for students with disabilities, including providing students extra time to complete assignments/assessments, access to online accessibility tools, options for different types of lined paper to write on, and texts at their reading level. When speaking about her co-taught ELA class, Melissa specifically talked about the use of Google Read and Write for students during the previous year. She explained how this was beneficial for students:

After they would, like, type up their English essays, I'd say, "Before you have me come look at it, you need to listen to it. Have it [Google Read and Write] read it to you. So you can hear it. Because then you'll hear some of your mistakes and fix those first." So really trying to get them to edit and really go back and listen and re-read what they wrote and how things sound... so that made a huge difference in a lot of their writing.

Specific instructional practices. Several of the teachers described the importance of instructional strategies for use with students with disabilities. Some of these were more general instructional practices and concepts, such as teaching to address "multiple modalities," assessing "in all different ways," and making real-life connections to class content. For example, when asked what practices are effective for her students with disabilities, Maria shared:

It's you know, pairing the visuals, making sure you're hitting all modalities, make sure you're out there assessing on all different levels and in all different ways... you know if this one [student] can answer orally but the other one can't, go up and ask them quietly.

Other practices mentioned by were more specific, and included such practices as breaking down information and skills into simple steps and teaching them step-by-step to students, modeling, pairing visual information with verbal information, and providing demonstrations and examples.

Multiple teachers stressed the importance of students having opportunities for repeated practice, re-teaching, and repetition, as well as circling back to skills multiple times in order to review and reinforce throughout the school year. An example of this came from Joanne, who discussed how she repeatedly practiced the concept of order of operations in math with her students throughout the unit because “the only way to retain it is to do it and to practice it.” Once the class’s unit on order of operations was complete, she explained how this concept needed to be reviewed again and again so students would retain it over time:

[Students need] to always to keep circling back. Once you're done with something of a unit, you're never just done with it. Like, “Oh you know what, look it, surprise! It's three months later, PEMDAS [mnemonic for order of operations], let's go.” And we're going to review it. You have to keep reviewing. When, when you're done with that unit you can't just say, “Oh you know what, we're done” and throw it out. You have to keep bringing it back. They needed long term repetition, not just in-the-moment repetition.

One teacher, Judy, described very specific practices related to the overall structure of lessons she had learned from participating in a study with a university, including working on a “singular objective” and engaging students in a cycle of direct instruction,

guided practice, and then independent practice that consists of “the *I do* as the teacher models it, the *we do* as we do it as a group, and then the *you do* or it's independent.” She explained the benefit of this for her students with disabilities:

You want them to have success, right? If they can't understand it and feel good about it, they're not, that's where the behavior is going to come in and that's where they're going to tune out and they're not going to be engaged. So you need to make it easy and something that they can handle and break it into simple steps.

Implementation of effective practices for students with disabilities. In interviews, all teachers were asked about and discussed the extent to which the instructional strategies they believed were effective for students with disabilities were implemented in each of their co-taught classes during the previous school year. As with their opinions of their co-taught classes in general, the special education teachers in this study expressed a range of thoughts and opinions about whether and how such instructional practices were implemented for students with disabilities in these classes.

Overall, all of the teachers shared that there were co-taught classes in which they could implement the type of instructional practices they believed were effective for students with disabilities. The clearest example of this was with Judy, who described implementing the same reading intervention strategies she used in her small group intervention classes in her co-taught ELA classes. While she taught students how to identify the “gist” of texts sentence by sentence in the intervention classroom, in the inclusion class they used the same strategies to go paragraph by paragraph with the entire class using more extended texts.

While Judy spoke about incorporating intervention-based strategies into the overall instruction provided to all students in her co-taught ELA class, many of the other teachers described a much less formal approach to implementing these practices as opportunities came up during their co-taught classes in what Katherine called an “on-needed basis.” Joanne explained how she felt “[she] was able to do what [her] kids needed and then some,” as she could implement practices she felt were effective for these students when it seemed to be needed in her co-taught ELA class. She explained how this occurred in class:

So if, like, I have a thought pop into my head and say, “Oh well let's try it this way,” I could just get up and say “Well why don't we try it this way?” And I could get up and I could use the board and the Elmo and do whatever I wanted to do at the drop of a hat.

While Judy, Joanne, and several other teachers described being able to implement effective practices on a whole-group basis in some of their co-taught classes, for many of the teachers, these practices were implemented specifically for students with disabilities. Particularly for teachers who described limited instructional roles in their co-taught classrooms, implementing what they viewed as effective practices was done during the times when these teachers were able to work specifically with their students with disabilities, either in small groups or individually.

Six of the eight teachers indicated that there was at least one co-taught class in which they could not implement practices they viewed as effective for students with disabilities, either at all or to the extent they would have liked. For example, John

described a number of practices he would have liked to have incorporated into his co-taught ELA class, including using graphic organizers to break down the steps of the writing process and structuring class with individualized assignments and stations for reading as he had done when he was a self-contained classroom teacher in the past.

Because of several barriers that prevented his ideas from being implemented in his co-taught ELA class (discussed later in this chapter), John unfortunately felt that instruction was not always clear and effective for the students in that class. When discussing how writing instruction was provided in his co-taught classroom, he explained:

I felt like I had a better insight of it, at least using a graphic organizer to kind of break down the steps of the writing process to show it a little more clear. She [general education teacher] would use some of those at times, sometimes she went on it to do it her way because she designed a writing workshop type model, but it was very unclear for some of the kids and I wanted to incorporate mine. So it was kind of a mixed bag with that.

Teacher descriptions of instruction. It is important to note that, in general, the special educators involved in this study spoke of their instruction and work in the general education classroom as providing access to the general education curriculum for students with disabilities. Even when they were positive and felt they could implement effective instructional practices, there were very few instances of discussing instructional strategies cited in the literature as effective for this population of students, such as explicit instruction, opportunities for supported practice, and regular progress monitoring.

Access to grade level curriculum. Overall, instruction in the co-taught classroom was discussed in terms of providing students with disabilities access to grade level curriculum and making content accessible for these students in their core academic classes. For several of the teachers, this was the core purpose of students with disabilities being included in general education classrooms. When asked about instruction in her co-taught classes, Judy explicitly stated the following:

In the inclusion classroom, I need to make sure that each one of my students has access to the curriculum. To the common core standards. They need to be taught, at least introduced to it, at least offered a chance to check it out. You can't just assume they can't do it. And it's not fair to give, to not provide them an opportunity to it.

In order to do this, the teachers in this study discussed several ways in which they made content accessible to students in their grade-level core content classes. As discussed in the previous section, when asked about how students with disabilities are supported and provided instruction in the co-taught classroom, the majority of the special education teachers spoke about making accommodations and modifications for students with disabilities. This included accommodating student assignments and assessments in terms of formatting as well as providing accommodations during class as they were needed, such as pulling students into small groups to complete assessments, giving them extra time to complete assessments, or shortening assignments for individual students.

For the teachers in this study, it was clear that purpose of these accommodations was to give students with disabilities the opportunity to access grade-level curriculum

content and demonstrate the grade-level skills expected of all students in their general education classes. For example, Katherine discussed accommodations as tools students are given as a “bridge” to help students demonstrate grade-level skills. She shared an example from her co-taught math class:

So if the content is something that you need your [multiplication] facts to get to, we're not going to waste our time with you sitting there trying to figure out what 9 times 6 is, counting on your fingers, whatever strategies you have. We're going to give you the tool [such as a multiplication table] that you need because that's what you need. It's like the bridge that's what you need to get there. The skill I need you to learn, long division. You don't know your facts, well then use this to get where you need to go.

Lack of ability to address individual student needs. In line with this, several teachers explicitly discussed being unable to address individual student needs within their co-taught classes. Melissa explained an example of this in her co-taught math class, where she felt many of her students lacked the foundational skills needed to demonstrate grade-level math skills, such as long division. Given the volume of content her and her co-teacher needed to get through during the school year and the expectation that all students demonstrate proficiency in grade-level standards, Melissa explained the following:

In the classroom it, you know, she [general education teacher] was already trying to touch on so many things that to try to re-elaborate on anything just would've been overwhelming and too much and we would've been even further and further

behind.

It is important to note that one teacher did mention implementing instruction tailored to meet students' individual needs within the co-taught classroom. Linda explained that she monitored her students' performance on progress monitoring assessments and could incorporate some practice on needed skills during her co-taught math and English classes. For example, during the previous school year, when she noted students were lacking in their fact fluency skills in math, she worked with her co-teacher to incorporate ten minutes of fluency practice on an online program each day.

Factors impacting implementation of effective practices. In their descriptions of the instruction in their co-taught classes, special education teachers identified both facilitators and barriers to implementing those practices they felt were effective for students with disabilities in these classrooms.

Facilitators of effective practices.

General education teacher openness. As with their roles in planning and instruction, many of the teachers in this study indicated that the general education teachers with whom they co-teach had a significant degree of control over the actual instruction provided in their shared classes. In the classes where they could implement strategies they felt were effective, four teachers attributed their ability to do so to general education teachers' openness both to the special educators' input as well as to trying varied instructional approaches and strategies. An example of this was described by Maria, who had a very positive perception of the instruction offered by her grade-level team across content areas and attributed her ability to implement what she called "good

teaching” practices in her co-taught classes to her general education counterparts being “always open to anything I want to do...anything I want to do.” Maria expressed a strong belief that, over time, all members of her team had “embraced” these “good teaching” practices for all students, including pairing visuals with verbal information, repetition, and teaching to different modalities.

These teachers acknowledged that such openness to the input of special educators and to varied instructional approaches was not always the case among general education teachers who teach students with identified disabilities. For example, Maria described others teachers she knew of in her building who would not listen to the input of a special education co-teacher, and shared that her experience “would be different on a different team” of teachers. She felt, “I think if I was in a different situation it would be, I would be having a very different conversation with you [about instruction].” Katherine similarly explained that providing her students with the supports she felt they needed was “not a battle with the, the co-teachers because they want the success as much as you do.” She connected her co-teachers’ willingness to their trust in her as the special education teacher on their team, as they “are trusting that I know that this child needs this, so I'm giving it to them.”

For some teachers, the ability to provide instruction suited to the needs of students with disabilities was directly related to the general education teacher’s openness to allowing the special education teacher to have an instructional role in the classroom. An example of this was seen with Joanne, who shared that she could meet students’ needs in her co-taught ELA class because her co-teacher made it “totally acceptable” to “make

stuff up on the fly” and try it out during class to help students understand class content. As described in the previous section, she felt “like [she] was able to do what [her] kids needed and then some” because the general education teacher created an environment where she could try to explain content different ways and try out different strategies in the classroom.

General education teacher understanding of student needs. As they described the importance of their general education co-teachers’ openness in determining if and how effective instructional practices would be implemented, three teachers brought up the impact of the general education teacher’s philosophy and understanding of the needs of students with disabilities on instruction. These special education teachers described some of their general education co-teachers as “getting it,” and understanding that students with disabilities are working hard but have some limitations. As Joanne explained, these teachers understand that students on IEPs are not “lazy.” Rather, these teachers understand, “It's literally they [students] have a disability, they can't do it. They're not doing it to be rude, to be difficult, to be defiant. Their ability level just isn't there yet.”

For example, when describing how she is better able to do what she thinks her students need in her co-taught ELA class than in her co-taught math class, Joanne explained the difference between her ELA co-teacher and math co-teacher:

She [ELA co-teacher] has a, a different philosophy. She sees things differently than the other teacher [math teacher]. Um the other teacher’s more black and white, “Well they need to do this,” like, “Well I think if they tried a little bit

harder, they..." I'm like, "Well they can only try so hard if they're limited." Yeah, so I think it's just how you see things.

She described how her language arts teacher "gets it," meaning that she understands that students with disabilities have some limitations but are often working hard. She feels that "being a special ed teacher you see through a different lens." While most general education teachers don't see through that lens, her ELA co-teacher does, which has a significant influence on their ability to work together and provide all students what they need to be successful.

Barriers to implementation of effective practices. For those six teachers who shared a limited ability to implement effective instructional practices for students with disabilities in at least one of their co-taught classes, a number of barriers were identified.

General education teacher control over instruction. As in the examples just described, the majority of the teachers in this study viewed their general education co-teachers as in control over the instruction provided to all students. For some of the special education teachers, this meant the general educator could limit the extent to which the special education teachers' input and ideas were actually implemented in the classroom. For example, in her co-taught math class, Melissa noted that her co-teacher was in charge of instruction and was generally unwilling to incorporate anything outside of the mandated curriculum into their instruction. She attributed this to the fact that her general education co-teacher "liked the control" and would rather just "teach it her way, the way she wants them all to get it" than incorporate Melissa's suggestions or ideas into their class structures.

Like Melissa, many of these teachers felt that this general educator control was a barrier to implementing effective instructional practices for students with disabilities into co-taught instruction. These teachers described having ideas they thought should be incorporated into their co-taught classes in order to make instruction clear for all students and meet the needs of students with disabilities; however, the extent to which these ideas could actually be implemented in the co-taught classroom depended heavily on what several teachers referred to as the general education teacher “allowing” them to do.

For example, when speaking about the instruction in her co-taught math class, Joanne described having very limited input on instruction because her suggestions and ideas “have not been met with a great reception” by her co-teacher. These suggestions included many hands-on activities for students, such as interactive math notebooks, manipulatives, and scavenger hunts that would add in a physical activity component to lessons, all of which she felt would be beneficial for her kids with disabilities but also for the whole class. Despite multiple attempts to incorporate such activities into this class, Joanne explained that unfortunately she hasn’t “been given that permission yet.”

Special education teacher response. These special educators handled their general education co-teachers’ unwillingness to accept their input in a variety of ways. Some teachers described simply going along with what their general education co-teachers wanted to do for instruction. An example of this was John, whose repeated attempts to persuade his ELA co-teacher to structure class differently and incorporate new activities into class resulted in little change. He explained:

At times she was stubborn and she wanted to do it her way and, you know, it

came to the point where, is it worth fighting with her? Is it worth, I know what will work but, you know the old saying you can't shove a square peg in a round hole? That's how it was sometimes. I, I felt like I could give a suggestion and then she's like, "Yeah, no I want to do it my way."

Because John's co-teacher was in charge of the curriculum and was ultimately responsible for student growth according to schoolwide progress monitoring assessments, he found that he typically "rolled with" how she preferred instruction to be implemented. Unfortunately, he felt this significantly impacted the quality and effectiveness of the instruction that was offered to students.

Other teachers indicated pushing back more on their co-teachers to implement practices they felt students needed in order to access the curriculum and make progress. For example, Joanne indicated that, despite pushback from the general education teacher in her co-taught math class, she continued to advocate for what her students need to be successful in their math class. She explained the following:

So you, you can get a vibe off of a person and you know where that line is and you know when you're teetering on it and you know when you've crossed it. I've been getting good at teetering on that line and like tiptoeing across it.

With some small victories, such as being given the opportunity to grade her students' math notebooks based on individual skill level and effort rather than the standard set for the whole class, she expressed that "the line has definitely started to shift" and, with some persistence, she was "hopeful that we'll eventually maybe get rid of it altogether."

It is important to note that three of these teachers described finding alternative ways to incorporate the instructional strategies they felt were needed for their students with disabilities into their co-taught classes or other times of the school day when it was possible. An example of this was seen with Linda, who used the independent practice time of lessons to sit in a small group with her students and provide instruction and review in a way she felt would help them understand the content that was just taught by the general education teacher. During this time, which was typically the last 15 minutes of the class period, she used such strategies as breaking down information into steps/pieces, providing examples, visuals, and demonstrations, and playing hands-on games.

Both Melissa and Joanne similarly described using time in their small group resource room classes to implement the strategies they feel are beneficial for their students with disabilities in order to make class content clear and provide the reinforcement these students need.

General education teacher responsibility for student progress. While a number of teachers attributed their inability to incorporate certain instructional practices into the co-taught classroom based on what their general education co-teachers will and will not allow, several also mentioned factors that may influence the general education teachers' control over instruction and willingness to implement varied instructional practices into their shared classes.

Two teachers indicated that general education teachers' control over instruction may have been related to the fact that they were ultimately responsible for student

progress as the teacher of record in each co-taught class. John described how there were certain topics and lessons in his co-taught math class that his general education teacher needed to control because the district would be collecting data on student performance. He explained:

Those things that she needed to have done a certain way, 'cause they were monitoring data so she's just like, "I just need to get it done, I just, I want it done my way because I know what the district's looking for." And I thought that was a pretty fair, you know 'cause I didn't want to do it the wrong way and then it screws her up.

Judy described a similar impact of teacher data collection on her general education co-teachers' willingness to give up some instructional control but expressed that this had much more significant implications for her ability to provide students with the types of instruction they needed during their co-taught classes. Across her classes, she described having a "very limited" opportunity for providing individualized interventions for students during class time. She attributed some general educator teachers' unwillingness to let her take students during class for interventions because they did not want students to miss class content.

Judy believed that underlying this unwillingness was the general education teacher's need for all students to be exposed to and make progress in the grade-level curriculum and produce data favorable to their evaluations. Because they need to meet the student proficiency targets set at the beginning of the school year, these teachers tend to get "so wrapped up in their scores" that "at the end of the day they care about

improving their scores” more than providing students with the types of instruction they may truly need, due to the stress and pressure of the teacher evaluation system used in her district.

General education curriculum and pace of instruction. Four teachers also discussed the significant impact of the curriculum and pace of instruction on the types of instruction that could be used in the general education classroom, as well as their ability to incorporate different types of activities and practices as they felt they were needed for students to be successful. An example of this was when Melissa shared how the new highly-scripted curriculum mandated by the district in her co-taught math class required her and her co-teacher to present many topics in very specific ways. She shared that these required teaching methods are “definitely not the way that I would teach certain topics.” Because this scripted, highly structured curriculum required topics to be taught in very specific ways and it needed to be implemented with fidelity, she felt there was very little room to make alterations, add supports, or address individualized instruction for students with disabilities.

For these four teachers, the curriculum and subject area could therefore have a significant influence on the special education teacher’s perception of the ability to provide students with disabilities the types of instruction they need to be successful in the general education classroom. For example, Judy shared that it was very difficult to incorporate those strategies she had learned through her university-based partnership due to the pace and volume of instruction in her co-taught math class. One example she shared was the following:

So in math, in the classroom it's very hard to have a singular objective because the math teacher doesn't, as much as you tell her, "You need to scale back it's too much, it's too much," she just sees it, "I got to get this curriculum and I've got to get it out."

While she feels some students can take in all of that information at once and still "get it all," her students with disabilities required instruction that focused on one skill at a time so they could achieve mastery before moving on to the next skill.

Lack of general educators' understanding the needs of students with disabilities.

Three of teachers attributed their general education co-teachers' unwillingness to incorporate new instructional strategies into their classes to a lack of understanding of the needs of students with disabilities. Judy felt that much of the general education teachers' preoccupation with teaching the general curriculum and improving student scores on progress monitoring assessments was connected with these teachers' lack of understanding of how to teach students with disabilities. She shared:

I go through all this intervention training and we've been trained on how to teach a singular objective, and how to break it down, and, and why you don't ask questions and certain things like that, these teachers haven't been trained, they don't see, they haven't...some teachers have gone through incredible training but they're missing some of that. And because of that they're not seeing how to teach students with special needs. They are teaching the whole class and they're missing, they're missing a big piece of it.

Three other teachers described general educators' overall lack of understanding on the part of their general education teachers of the needs of students with disabilities, which impacted their ability to understand the types of instruction and supports these students need in general. Joanne explained just this point when explaining the major difference between her two co-teachers:

I think [ELA teacher] has a better grip on the special ed and what it is and that the kids aren't just being lazy. That it's literally they have a disability, they can't do it. They're not doing it to be rude, to be difficult, to be defiant. Their ability level just isn't there yet. And she has that understanding. And [math teacher] I think sometimes doesn't get it like that. And she wants everybody to be the same and she just wants everybody to do their work in their books and turn it in and take the test and move on. And she's very rigid...she doesn't have the special ed background. And I think it makes it hard for her to understand.

Linda explained how her ELA co-teacher did not necessarily understand that special education students require additional supports to access and make progress in the general curriculum, and therefore missed instructional opportunities to incorporate the supports these students need to be successful in the general education curriculum. She explained:

The expectations are very different... So not that my expectations are lower for my students, but I know that they need more assistance and modifications to reach the expectations of the classroom teacher. So while they're in there [general education classroom], I think they feel that they can hold them to that high expectation, which is fine, but we just gotta help them get there.

This lack of understanding on the part of the general education teacher of the needs of students with disabilities was a theme that emerged throughout teacher interviews, whether or not instruction was being discussed specifically. For example, it also came up in the context of behavior, where several teachers specifically described the inappropriateness of their general education co-teachers holding students with emotional and behavioral disorders to absolute standards and demonstrated little understanding of the importance of noting individual student progress on an individual basis and making accommodations for students who needed them.

Both John and Dawn discussed specific instances where their general education teachers gave consequences to a student with an emotional/behavioral disability over an infraction that they felt should have been overlooked. John described this as what he observed to be when his co-teacher “caused fires that could have easily been put out.” For both of his teachers, this reflected an inability to “pick your battles” and reflected a lack of understanding of individual students and ability to meet their individualized needs in the co-taught classroom.

Small group instruction. In order to gain a comprehensive picture of their instruction, special education teachers were also asked about the instruction provided during their small group pull-out classes. Because it is generally understood in the field of special education that such small group, pull-out classes serve the purpose of providing students with disabilities specially designed instruction toward the goals outlined in their Individualized Education Programs (IEPs), it was important to probe the instruction provided in these classes by the special education teachers who participated in this study

to fully understand the instruction these teachers provide to their students with disabilities.

All of the special education teachers who participated in this study taught at least one period per school day outside of the general education classroom. These instructional periods varied in name, including resource room, small group, pull-out, and intervention block. For the purposes of this writing, these types of classrooms will be referred to as small group classes.

For six of the eight teachers in this study, this instructional block was specifically designated for working with students with IEPs and was meant as a separate special education class incorporated into these students' daily class schedules. During this instructional block, teachers worked with the same students they saw in their co-taught classes throughout the day. However, the frequency with which they saw each student varied depending on the way student schedules were structured in each school. For example, in some schools, students attended small group as one of their classes for one period per school day. In other schools, each individual student's number of instructional blocks per week in small group was dictated by what was written into their IEPs as instructional time outside of the general education classroom.

For two of the teachers in this study, this instructional block was structured a bit differently. For Linda, individualized learning time was built into all students' schedules as a time when they could go to their teachers for support in class content. This was therefore not a time that was designated for Linda to spend specifically with her students, but rather for her to help students as they came to her classroom to ask for help. In Judy's

school, her small group instruction was known as an intervention block where students, most of whom she taught during other times of the school day in co-taught classes, were assigned to specific interventions based on data from schoolwide progress monitoring assessments.

Perception of instruction in the small group setting. All of the teachers were asked about and discussed how they implemented instruction in their small group classes.

Addressing general education class content. Seven of the eight teachers spoke about spending the majority of their small group instructional time addressing content from the classrooms where they co-teach in order to make sure students can keep up with the content of these classes. This was done in three different ways, depending on the day and needs of the students: (a) supporting students to complete assessments and assignments, (b) re-teaching, reviewing, and reinforcing concepts, and (c) teaching to fill in gaps in student understanding in order to access class content.

Keeping up with assessments and assignments. Six teachers described using their small group instructional block as a time for students to complete work for their general education content area classes in order to keep up with instruction in these classes. These teachers described the resource block as a time when students were all working simultaneously on different content area assignments, with the special education teacher circulating among them to provide support as needed in the completion of these tasks. This included such assignments as tests and essays that were not completed during their regular class period, homework, and long-term projects.

Three teachers noted that, during this time, students logged into school-wide

online system to look for missing assignments and catch up on missing work in different subject areas. This was also a time when students could make up work that was missed due to absences from school.

Reteaching, reviewing, and reinforcing. While providing students with time and support to complete assignments from their general education classes, four of these teachers also described using resource room time to reteach, review, and clarify general education class content for students. This was done to address content with which students struggled during class time and provide them with additional opportunities to learn this material. For example, Katherine used part of her daily small group instructional block to reteach and review math content with students, focusing on what they struggled with during class time. She shared how this worked on a day to day basis:

Anybody that was struggling...and a lot of times we would give them an exit slip when they left math, so they would have to do a problem. I would take those and I would correct all of them. And then right before lunch I would run down everybody who needed to see me for resource at the end of the day because anybody who had any trouble struggling sometimes it was a quick cleanup.

Similarly, Joanne noted the mistakes students were making or misconceptions they appeared to have during her co-taught math and ELA classes and used small group time to re-explain and clarify these concepts and give students additional opportunities for supported practice. As described in the previous section, for some teachers, including Joanne, resource room was a time to clarify general education class content using the instructional strategies they would like to incorporate into the general education class for

all students but were not able to during the previous school year.

For most of the teachers, small group instruction time was key in preparing students for work they would need to complete independently in the general education setting, such as homework. These teachers explained how they often used their resource time to review information and key concepts with students right before they took an exam in the general education classroom. In order to support their success on homework and assessments, Katherine helped students work through the exact problems they would see on upcoming homework assignments, quizzes, and tests so they could more easily complete these same problems independently either that night or in class the next day.

Filling in gaps. Time during the small group instructional block was also used by two teachers to fill in gaps in student knowledge and skills in order for students to access the grade level content. Dawn shared that sixth graders learn long division with decimals. Because her students do not typically have enough practice with long division of whole numbers from previous grades, she would spend time in resource room reteaching this before their co-taught class would be addressing long division with decimals. Melissa similarly shared that her students often lack the foundational skills needed to access grade-level math content, so she tried to provide instruction several days ahead of the math curriculum they were expected to access in class by teaching skills they had not learned in previous grades.

Addressing student areas of need. It is critical to note that several teachers described weaving instruction to address areas of need for their students into their small group instruction time along with addressing general education class content.

Skills practice. For two of these teachers, this meant providing instruction in the small group that targeted specific skills students were lacking. This practice of what Joanne called “ramping up skills” was described as working on skills students needed to practice using materials different from those used in their general education classes. Several teachers mentioned having students read a book as a group during small group instructional time aside from the whole-class texts they were reading in their co-taught ELA classes. One of these teachers was Katherine, who spent some of her small group instructional time reading a book with students as an opportunity to work on skills she felt these students were lacking, such as making inferences, summarizing, tracking character development, and making connections between the text and real life experiences. She shared:

But the reading, you were still going back because some of those kids are reading at a fourth-grade level. So it was the vocabulary, it was the understanding, it...not even so much the speed, it was process, the process of what are some things that you can do to help you understand the story?

Addressing IEP goals. Three teachers shared that the purpose of their small group instructional block was to address skills related to students’ IEP skills. John described how he dedicated some time in his instructional block to having students work on skills targeted in their IEPs and collect data on their progress by giving them worksheets as a warm-up activity during their small group instructional block. He shared the following example:

One girl, I had one girl who struggled with multiplication facts. Every time in

small group, she would have to do a 5 minute warm up, a skill and drill challenge, and she would kind of have to complete the worksheet and then she would kind of go over with me, you know the strategies she used to just solve the multiplication.

Intervention based on progress monitoring. One teacher, Judy, explained that her small group instructional block consisted of a very specific reading intervention focused on reading comprehension strategies. During this intervention block, students receive extensive direct instruction and opportunities for supported practice with applying learned strategies to different texts. Within a school-wide focus on needs-based literacy intervention, students were assigned to Judy's comprehension group based on performance on progress monitoring assessments and classroom-based assessments, as well as progress toward their IEP reading goals. It must be pointed out that, while participating in the current study, Judy was simultaneously participating in a study through which she received instruction in literacy instructional techniques and supported incorporation of this into her intervention block.

Teacher conflict. While several teachers described the purpose of their small group instructional block as a time for addressing students' individualized learning needs and specific IEP goals, the majority of the teachers involved in this study indicated that this instructional time was routinely dedicated to addressing content from students' co-taught general education classes.

Three teachers directly addressed this point in their interviews, explaining that they attempted to plan content for the small group instructional block in a way that would target individualized areas of need and student IEP goals, but often found themselves

addressing general education content so students would not fall behind in these classes.

Joanne shared:

To be perfectly honest, I started off the year planning for resource and after the first quarter I stopped because I had all these great plans and all of these resources ready to go and I never got to them because I was planning on having resource as working on IEP skills, working on the things that they really needed. And what resource ended up turning into was reteaching of the skills from the general ed classroom and completing the work that they didn't complete in class and working on homework because I knew if I didn't work on homework in resource, it wasn't going to get done or it was going to get done wrong and they'd come into school and be ready to go on a test and have been doing it wrong the whole time.

This led her to campaign for, and ultimately obtain, a second resource block with her students each day, so she could have one block per day to address content from the general education classes and one to address students' IEP skills. This was to begin in the school year following completion of her interview.

For these teachers, this lack of opportunity to address those skills they knew students really needed lead to a sense of frustration and uneasiness. Maria expressed being very conflicted over the content addressed during her small group instructional time for the entire school year during which this study was conducted. She shared how she struggled with the content of these classes, weighing whether it would be more beneficial to address content from the students' general education classes she knew they could not handle independently or the skills outlined in their IEPs. She ultimately settled

on using this time to assist students in completing assignments from their general education classes and preparing for assessments, but had materials prepared for students related to their IEP goals. This way, if they did not have an assignment from another class that they needed help with, they could work on these worksheets.

This begs the question of when, where, and how students with disabilities may be receiving individualized instruction aimed at their IEP goals.

Research Question 3

To what extent do special education teachers implement evidence-based instructional practices for students with disabilities in co-taught classrooms at the middle school level?

In order to assess the instruction in the co-taught classrooms described by the special education teachers participating in this study, all of the teachers were recorded providing ELA and math instruction four times during the 2016-2017 school year.

Video recorded observations for each participating teacher were distributed across co-taught and small group/resource room settings to accurately reflect each individual teacher's instructional responsibilities. All teachers recorded at least two lessons in the co-taught setting, and seven out of the eight teachers recorded at least one lesson in the small group/resource room setting. One teacher had all lesson observations completed in co-taught classrooms. Table 1 in Chapter 1 outlines the characteristics of lessons analyzed for the purposes of this study by grade level, subject area, and classroom setting type.

As previously described, lessons were analyzed using the Quality of Classroom

Instruction instrument (QCI; Doabler et al., 2015). This instrument outlines eight principles, or teacher behaviors, that define quality instruction, including teacher modeling, instructional pacing, response time, transitions between activities, student engagement, learning success, checks of student understanding, and academic feedback. See Appendix G for a description of each principle and criteria for scoring level 3 on each principle.

Quality of instruction in co-taught classrooms. For each lesson, instruction was rated on a scale of 1 (low quality) to 3 (high quality) on each principle. In addition, two scores were calculated for each lesson: (a) a QCI overall score, reflecting the overall rating for the lesson, and (b) a QCI mean score, reflecting the average score across the 8 principles for the lesson.

For the purposes of this analysis, each teacher's scores on the eight principles, QCI overall, and QCI mean score for the two or three (and in one teacher's case, four) lessons observed in the co-taught classroom were averaged together. See Table 5 for these mean QCI scores by participant. As can be seen in Table 5, mean QCI overall scores for each participant ranged from 1.50 to 3.00. The mean QCI overall score for one teacher, Judy, was noted to be significantly higher than the mean QCI overall score assigned to the seven other teachers in this study. With the exception of Judy, the teachers' mean QCI overall scores ranged from 1.5 to 2.17, indicating that the instruction in the co-taught classes observed for the purposes of this study for the majority of teachers was scored in the low to medium quality range. Judy's overall QCI score across co-taught lessons was a perfect 3.0.

Analysis of the participants' QCI mean scores across the eight principles tells a similar story. With the exception of Judy, QCI mean scores ranged from 1.38 to 2.25. Across the eight principles of the QCI, instruction in co-taught classes was also found to be in the low to medium instructional quality range, with mean QCI scores ranging from 1.38 to 2.69. Across the eight QCI principles, scores in each principle hover between the 1.50 and 2.30 range, with the exception of Judy, whose instruction consistently obtained scores between 2.50 and 3.00 within each principle.

Looking specifically at each principle of the QCI for all of the teachers in this study, there are not clear differences in participants' scores according to the QCI principle being measured. On principle 1, which rates the extent to which the teacher models skills and concepts appropriately and with ease, using precise language and concise examples, average scores for all participants ranged from 1.5 to 2.5. On principle 2, which assesses the use of timely checks to ensure student understanding and inform further instructional practices, teachers' scores also ranged from 1.5 to 2.5. On principle 3, which addresses provision of adequate think and response time for students to respond to questions, scores ranged from 1 to 3.0.

On principle 4, which rates the teacher's ability to engage students in learning throughout the lesson with purposeful checks for understanding and supportive guided instruction, scores obtained by the participants were between 1.33 and 2.50. On principle 5, which measures the extent to which the teacher ensures a high rate of success for students in practice opportunities, so they are being challenged but produce a high percentage of correct responses, scores were between 1.5 and 3.0. On principle 6, which

	Principle 1 Models skills/concepts appropriately and with ease	Principle 2 Uses timely checks to ensure student understanding	Principle 3 Provides adequate think and response time for students	Principle 4 Engages students in learning throughout the lesson	Principle 5 Ensures high rate of success for students	Principle 6 Encourages effort from all students	Principle 7 Transitions from one activity to the next in appropriate fashion	Principle 8 Maintains good pacing	QCI Mean	QCI Overall
John	1.50	1.50	1.00	1.50	1.50	1.50	1.00	1.50	1.38	1.50
Dawn	2.33	1.50	1.83	2.00	1.67	1.67	1.50	1.67	1.81	1.50
Judy	2.50	2.50	3.00	2.50	3.00	3.00	2.50	2.50	2.69	3.00
Maria	1.83	2.33	2.00	1.83	1.83	2.17	1.83	1.50	1.92	1.83
Katherine	1.50	2.00	2.50	2.00	1.50	2.50	2.00	2.00	2.03	1.50
Melissa	2.17	2.33	2.50	2.33	2.17	2.67	1.50	1.83	2.25	2.17
Joanne	2.33	2.00	2.33	1.33	2.33	2.00	3.00	2.00	2.14	2.00
Linda	1.63	1.75	1.75	1.63	1.63	1.88	1.88	1.88	1.75	1.88

Table 5. Mean QCI Scores for Co-Taught Lessons

assesses the extent to which the teacher encourages effort from all students, scores were between 1.5 and 3.0. On principle 7, which focuses on how efficiently the teacher transitions from one activity to the next within the lesson, scores were between 1.0 and 3.0. On principle 8, which looks at how the teacher maintains good pacing and intensity throughout the entire lesson, scores were between 1.5 and 2.5.

Quality of instruction in co-taught classrooms and teacher perceptions.

Mean QCI scores were compared for co-taught ELA and math classes by participant (see Figure 1 for this information, on the next page). As can be seen in Figure 1, results indicated that mean QCI score was higher in co-taught math classes than it was in co-taught ELA classes for all participants but Joanne. The results of this comparison are interesting to note in conjunction with the qualitative information provided by participants on their perceptions of instruction in each of their co-taught classes.

In the qualitative findings of this study already presented, several teachers indicated that they had opportunities to provide the types of instruction students with disabilities require in all of their co-taught classes, including Dawn, Maria, and Katherine. However, the mean QCI scores indicate that there may be differences in the quality of instructional practices used in these two different subject areas. All three of these teachers had higher QCI mean scores on instruction in the co-taught math class than they did on instruction in the co-taught ELA class.

In addition, there were three teachers in this study who indicated that they had significantly more opportunity to implement practices effective for students with disabilities in one content area than another-- John, Joanne, and Melissa. In interviews,

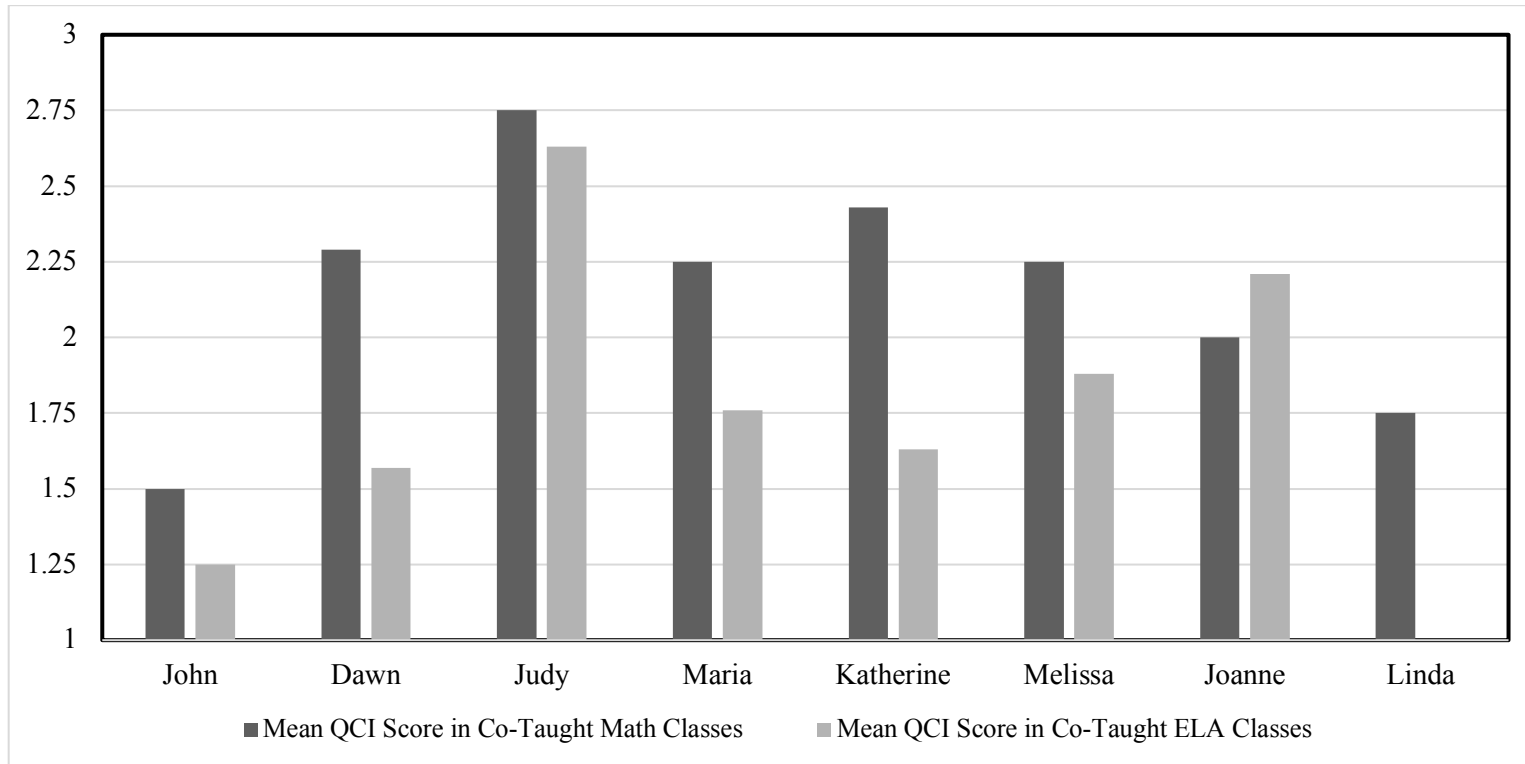


Figure 1. Mean QCI Scores for Co-Taught Lessons by Subject Area

John shared that he had a greater ability to provide students with the instruction they needed in his co-taught math class. Joanne's perception was the opposite, as she described having a much greater opportunity to incorporate effective practices into her co-taught ELA class. As can be seen in Figure 1, mean QCI scores reflect these perceptions. The instruction in John's math class was rated higher on the QCI than was the instruction in his ELA class. Similarly, the instruction in Joanne's ELA class was rated higher on the QCI than was the instruction in her co-taught math class. However, the opposite was true for Melissa. While Melissa explained having greater opportunity to implement the types of practices her students with disabilities require in her co-taught ELA classes than in her co-taught math classes, the mean QCI score for the lesson in her co-taught math class was higher than that of her co-taught ELA class.

Quality of instruction in small group classroom settings. Mean QCI scores were compared across co-taught and small group classroom settings for each participant (see Figure 2 on the next page). Results indicated that, across participants, there were no clear patterns in terms of the quality of instruction in one classroom setting versus the other. For three of the teachers, the mean QCI score in small group lessons was higher than that observed in co-taught classrooms. For three of the teachers, the mean QCI score in co-taught classes was higher than that in small group classes. For one teacher (Judy), mean QCI scores were the same. Interestingly, for those teachers who reported having significantly more control over instructional practices provided in the small group classroom, there were not discernible differences in quality of instruction across the two settings in terms of mean QCI scores.

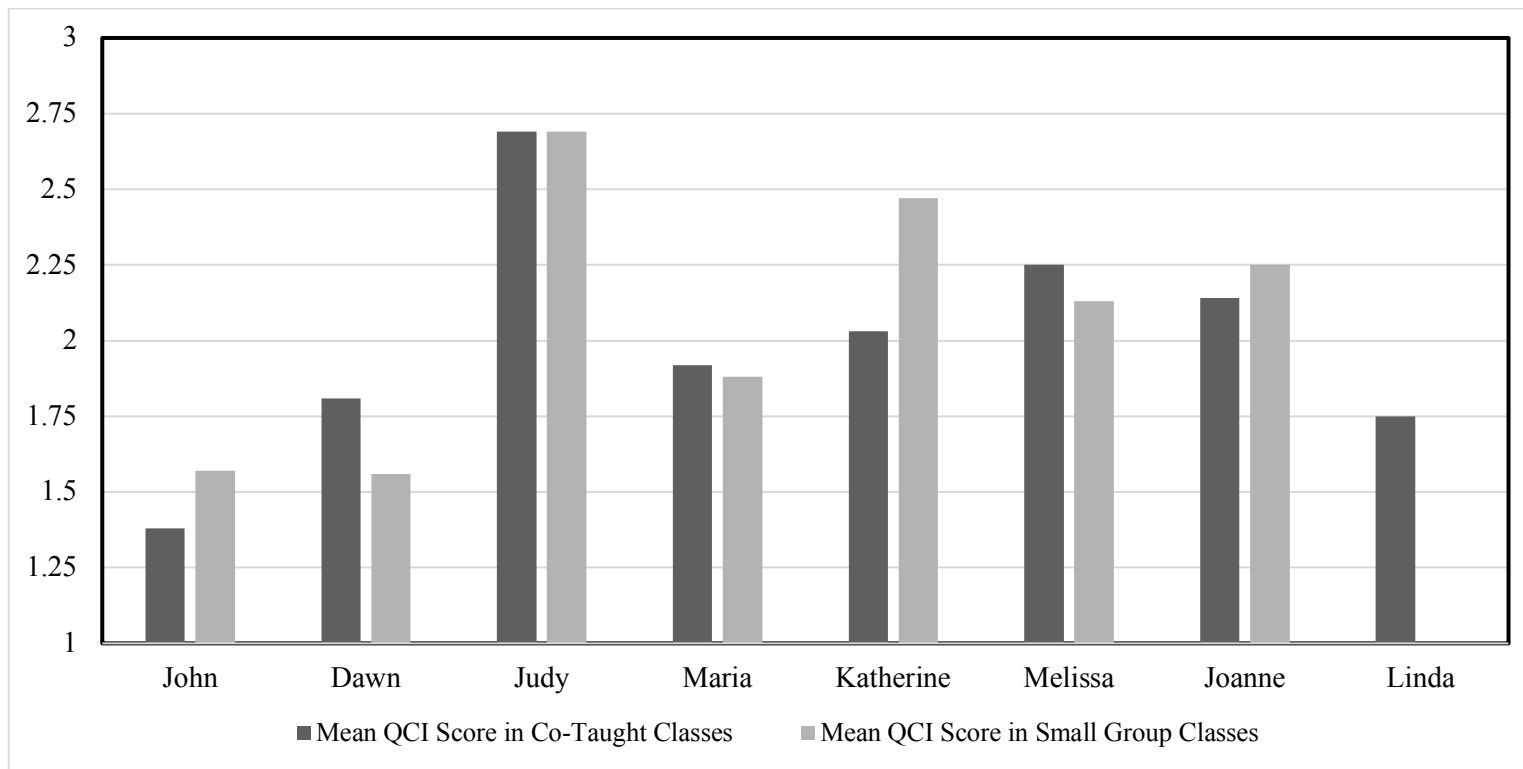


Figure 2. Mean QCI Scores for Co-Taught and Small Group Lessons

CHAPTER FIVE: DISCUSSION

Introduction

The purpose of this mixed-methods, multiple case study was to investigate middle school special education teachers' perceptions of their roles and instruction in co-taught classrooms, as well as, when observing them, the extent to which they implement practices known to be effective for students with disabilities. To this end, eight special education teachers completed surveys and participated in semi-structured individual interviews in which they shared perceptions of their roles and instruction in co-taught classrooms during the 2016-2017 school year. They were also video recorded providing instruction in co-taught English Language Arts (ELA) and mathematics classrooms and lesson observations were analyzed to determine the extent to which these teachers implemented instructional practices recognized in the field of special education as evidence-based.

As described in Chapter 4, survey information and themes from interviews were combined with information gleaned from instructional observations in order to gain an in-depth understanding of the instruction in these teachers' co-taught classrooms as well as their perception of factors that may shape this instruction. This chapter first includes a synthesis of the key findings of this study, including higher-level themes about co-teaching in relation to this study's research questions. In addition, connections are made between these findings and existing literature on co-teaching. Then, drawing on Bettini et al.'s (2016) framework of special educators' opportunities to *learn*, to *plan*, and to *teach*, implications of this study's findings are discussed in relation to teachers' working

conditions specifically within co-taught classrooms. Based on the findings of this study, implications for practice, both in schools and teacher preparation programs, are discussed. Finally, study limitations are identified and recommendations for future research are made.

Synthesis of Key Findings

Limited instructional roles for special educators. In this study, the majority of special education teachers described assuming limited roles related to planning, curriculum development, and instructional delivery in their co-taught English Language Arts (ELA) and mathematics classes at the middle school level. In terms of planning and curriculum development, these teachers generally reported limited involvement that ranged from keeping up with class content planned by their general education co-teachers to accommodating classroom materials created by the general educator so they could be accessed by students with disabilities. During the actual instructional time in their co-taught classes, most teachers described taking on a largely supportive role while their general education co-teachers took the lead on delivering instruction. Within this supportive role, the special educators' responsibilities mainly consisted of clarifying and reinforcing the general educator's instruction, supporting individual students to keep up with this instruction, and assisting students in completing classwork and assignments.

This is consistent with existing qualitative research indicating that special education teachers generally occupy supportive instructional roles in co-taught classrooms where they monitor and assist students as needed, while the general education teacher provides much of the instruction for students with and without disabilities (Rice

& Zigmond, 2000; Magiera et al., 2005; Scruggs et al., 2007; Wexler et al., 2018). While many of the teachers in this study described taking on relatively more active roles during the independent practice/student work time portion of lessons in their co-taught classes, such as re-teaching and reinforcing class material with small groups of students, their reports indicated limited opportunities to provide students with what would be considered substantial, intentionally designed instruction.

These findings indicate that there is a clear role differential between general educators and special educators in the majority of co-taught classes included in this study, with general educators assuming much of the core responsibilities for instructional planning and delivery while the special educators provide support as needed. For many of the special educators in this study, there seemed to be an understanding that the general education teacher's role is to plan for and provide instruction for all students while the special educator's role is to support students with disabilities in accessing and keeping up with this instruction during class. This indicates that co-teaching may be understood and enacted very differently from how it is described in much of the literature on co-teaching, which portrays a general educator and special educator collaboratively planning, delivering, and assessing instruction and sharing responsibility for the learning and progress of all of their shared students (Friend, 2008; Friend & Bursuck, 2012; Friend, 2014).

It is important to note that there were exceptions to these findings. Several of the special education teachers who participated in this study reported that they collaboratively planned and delivered instruction with at least one of their general

education co-teachers, effectively sharing responsibilities and collaborating to lead instruction for all students.

General education teacher control over special education teacher roles and responsibilities. Special educators perceived a number of factors to influence their instructional roles and responsibilities in co-taught classrooms. They pointed to several factors that have been cited in previous literature as impacting the implementation of co-teaching, including the nature of planning time with their co-teachers (Austin, 2001; Kohler-Evans, 2006), their own knowledge of curriculum and class content (Rice & Zigmond, 2000; Weiss & Lloyd, 2002; Mastropieri et al., 2005), and co-teacher compatibility and relationship (Rice & Zigmond, 2000; Keefe & Moore, 2004). However, in this study, a significant factor impacting the special educator's instructional role and responsibilities was the general education teacher with whom he or she was paired. Overall, these general educators were described as having a significant degree of perceived control over the roles and responsibilities their special education co-teachers were and were not able to take on in their co-taught classrooms, including those related to planning/curricular decisions and instructional delivery.

Because the majority of the general education teachers were reported to assume responsibility for lesson planning and curriculum development for their co-taught classes, they controlled the extent to which their special education co-teachers were able to contribute to this planning. This included whether the special educator could access these plans prior to lesson implementation, whether the special educator's input was asked for, and the extent to which this input was ultimately incorporated into curriculum, lesson

plans, and classroom materials.

In addition to lesson planning and curriculum development, general educators were described as having a significant degree of control over the instructional responsibilities their special education co-teachers were able to assume in their shared classes. Many of the special educators in this study described their own instructional role as shaped by what they perceived their general education co-teachers did and did not *allow* in their co-taught class. For some special educators who reported being able to collaborate and share instructional responsibilities with their general education co-teachers during class, the ability to take on an active role during instruction was described as something that was permitted and intentionally facilitated by the general education teacher. By the same token, those teachers who described limited instructional roles in their co-taught classrooms reported following the general educator's cues regarding what the things they could and could not do during class. While this aligns with previous studies indicating the role of the special educator in co-taught classrooms is impacted by having to negotiate their place on another teacher's turf (Scruggs et al., 2007; Salend et al., 1997), several of the teachers in this study specifically attributed their instructional roles to their general education co-teachers' understanding and acceptance of their role as a co-educator in classes that, for most of the teachers in this study, were understood as belonging to the general educator.

General education teacher control over instruction. In this study, the significant degree of control general educators were reported to have in co-taught settings was also reflected in special education teachers' perceptions of the instruction offered in

these classes. Many of the special educators in this study cited the general education teacher with whom they worked as an important factor in whether or not they could implement the types of instructional practices they feel are effective for students with disabilities in their co-taught classes. In classes where they could implement such practices, the special educators attributed their ability to do so to their general education co-teacher's openness to the special educator's input as well as to incorporating varied instructional approaches and strategies in their classes.

On the other hand, general education teachers who lacked such openness were reported to significantly limit the extent to which effective instructional practices could actually be implemented in the classroom for students with disabilities. Because these general education teachers had control over both planning and instruction, they could be a significant barrier to incorporating the types of instruction the special educators felt was needed for their students with disabilities to be successful. General educators' willingness and ability to do so was closely related to their understanding of the needs of students with disabilities and special education in general. According to the special education teachers in this study, the difference between those general education teachers who "get it," meaning they understand the needs of students with disabilities and how to support them, and those who do not, could mean a substantial difference in the quality of instruction provided for students with disabilities in co-taught ELA and mathematics classes.

This is especially important because, in this study, many of the participating special education teachers indicated there was at least one co-taught class in which they

could not implement practices they view as effective for students with disabilities, either at all or to the extent they would have liked. In several of these cases, this placed significant responsibility on the special educator to figure out ways to incorporate effective instructional practices into their co-taught classes for students with disabilities in addition to the instruction already being provided to the entire class. Special educators described doing this in a variety of ways, including weaving such instruction into small chunks of time during independent practice portion of lessons or, for many teachers, during small group instructional time outside of the co-taught classroom. Several special educators even reported repeated attempts to convince their general education co-teacher to incorporate different supports and strategies into their shared class or classes, with varying degrees of success.

Power differential between general education teachers and special education teachers. The significant control the general education teacher was reported to have over both teacher roles and the instruction provided in co-taught classes suggests that there is an implicit power differential between general educators and special educators in many of the co-taught classrooms analyzed for the purposes of this study. From special educators' accounts, it is clear that their general education co-teachers occupy a position of greater power from which they exert control over how instructional responsibilities are divided and how instruction is provided to students with and without disabilities in their co-taught classrooms.

It appears that this is an implicitly understood and accepted power structure among many of the special education teachers who participated in this study. Their

responses to interview questions indicate that the general education teacher is, by default, considered the owner of the classroom and therefore in control of how the classroom runs, including implementation of curriculum, instruction, and student assessment. As the owner of the classroom, the general education teacher is also able to determine the extent to which a co-teacher can contribute to and take on instructional roles in their shared classes.

For the special educators in this study, this was clear in the co-taught classes where they felt they were actively involved in instruction with their general education co-teacher and were satisfied with the instruction they collaboratively provided to students. In these classes, it was repeatedly noted that the general education teacher *allowed* this to be the case, by creating an environment where the special educator felt comfortable taking on instructional responsibilities and permitting the special educator's input to be incorporated into instruction. Several special educators pointed out that it is not the norm for general education teachers to be so open or willing to having a special education teacher take on a role in their classroom or contribute to their instruction. Accordingly, these teachers made reference to general education teachers with whom they had worked in the past or within their school buildings who simply would not consider a special educator's input or giving a special educator a role in their classroom.

The power differential between general and special education co-teachers was also apparent in those co-taught classes where the special educators were dissatisfied with their limited instructional roles or with the instruction provided to students. In these classes, several special education teachers disagreed with the way the class was

structured, the arrangement of the two teachers in the class, or the way information was presented to students; however, they went along with the instructional decisions made by their general education co-teachers, even when they felt these decisions negatively impacted the quality and effectiveness of instruction offered to students.

Other special education teachers who disagreed with the instruction provided in their co-taught classes explained that they tried to convince their co-teacher to do things differently. However, they were only able to make changes or incorporate certain instructional practices in their co-taught classrooms *within the limits set by their general education co-teachers*. For some special education teachers, this meant that their suggestions were minimally implemented in the co-taught classroom, or not implemented at all. For others, this meant continuous advocacy was required to obtain the general educator's approval to implement new or different instructional strategies, little-by-little, within the context of their shared classroom. Finally, for several of the special educators, this meant seeking alternate ways to provide students with disabilities the types of instruction they need, even when this was not possible within the confines of typical instruction in co-taught classes. This was done through such means as working with students in small groups during the independent practice portion of lessons in the co-taught setting or during small group/pull-out instruction.

Factors that contribute to the power differential between general and special education teachers. The findings of this study point to several factors that may contribute to the power differential noted between general and special education co-teachers. Special educators described a number of school-wide structures that may position the

general educator to have control over planning and instruction in co-taught classes. The first involves teachers' access to curricular materials and professional development opportunities related to curriculum within the content area(s) they teach. In this study, one special education teacher explained that she was not included in curriculum planning meetings with the general education teachers at her school. Because of this, she was not as familiar as her general education co-teacher with the curriculum or how it was supposed to be implemented, which she felt impacted her ability to take on an active instructional role in their shared classes. In addition to simply providing general educators with more information than their special education co-teachers about the curriculum that is to be implemented in their co-taught classrooms, this type of set-up implicitly positions general educators as the owners of the curriculum who have both the expertise and authority to plan and deliver instruction to students in their content area.

Additionally, many of the special educators in this study described having planning time scheduled for their entire team at the same time, including the general education teacher for each content area (ELA, math, science, and social studies). Because the special educators in this study each worked with at least two different co-teachers in at least two (and as many as four) different academic content areas during the 2016-2017 school year, this structure did not always lend itself to collaborative planning with the special education teacher and each of his or her co-teachers. For many of the teachers in this study, this allowed time for general educators to fill the special education teacher in on already-completed plans and materials for upcoming lessons; however, it did not necessarily allow them to collaboratively develop plans together. Such a schedule for

planning time may reinforce a power structure in which the general educator makes instructional decisions as the owner of the classroom, and once informed of these decisions, the special educator may be invited to provide input.

While general educators were implicitly positioned to own the curriculum and instruction in their co-taught classes by structures in place in their schools, many were more explicitly considered the *teacher of record*, or main teacher, for each of their co-taught classes. Particularly in those schools where standardized curricula were being implemented and monitored district-wide, this meant that these general educators were responsible for taking students through the required curriculum, implementing it with fidelity, and in some cases keeping up with a prescribed pace of instruction. In addition to being responsible for the instruction provided to students, these teachers were also held accountable for student progress on standardized assessments in their content area. While their designation as the *teacher of record* explicitly positions these general educators as the owners of curriculum and instruction, it also may also reinforce the need to retain control over the instruction provided to all students in co-taught classes. This is especially true in cases where student performance and progress are tied specifically to the general education teacher's professional evaluation.

Special educator focus on the general education curriculum. Discussion of the factors that impact the instruction special educators provide to students with disabilities in co-taught classrooms is particularly important in light of the fact that so many of the special educators in this study spoke about orienting their work with students with disabilities around the general education curriculum and content in their co-taught

classrooms. Their work focused on supporting students with disabilities to access and stay afloat in the grade-level curriculum, through such means as reinforcing and clarifying concepts taught to the entire class and accommodating student materials, rather than implementing any sort of specially designed instruction focused on individualized student needs in their co-taught classes. These results align with those from previous studies indicating that special educators often lack opportunities to implement the types of instructional practices expected in special education in the co-taught classroom setting, such as individualized instruction and regular progress monitoring (Baker & Zigmond, 1995; Zigmond & Matta, 2004; Magiera et al., 2005; Volonino & Zigmond, 2007).

However, in this study, this was true even during most special educators' small group instructional blocks, where the majority of time was dedicated to addressing general education class content. This included helping students to complete classroom assignments and assessments and reviewing or previewing classroom content so they could access the general education content when in their co-taught classes. Special educators' descriptions of their instruction indicated a notable lack of emphasis on, and for some teachers, an inability to adequately address special education students' individualized goals and learning objectives even when there was specific instructional time dedicated to this during the school day. There were some exceptions to this finding, as several special educators involved in this study described being able to dedicate at least some time during small group instructional blocks to instruction targeting student areas of need. One teacher described implementing a specific reading intervention during this time as well.

Special educators discussed several factors that may orient their work toward the general education curriculum, even during small group instructional blocks. In their schools and districts, some of these teachers indicated there was significant emphasis on all students not only accessing, but also making progress in the grade-level general education curriculum in inclusive co-taught classes. Within inclusive co-taught classes, students with disabilities were often held to the same academic standards as their peers without disabilities in the process of grading by their general education teachers. While several teachers who participated in this study indicated that data on student progress within the curriculum was collected and monitored, it is unclear if and how student's progress toward IEP goals may have been measured and incorporated into teachers' evaluations. This school- and district-wide emphasis on progress in the general education curriculum may influence special educators' decisions to prioritize student access to and progress in the general education curriculum over implementing specially designed instruction in their work with students with disabilities.

Within these larger school structures that emphasized access to and progress in the general education curriculum, many of the special educators indicated that they generally assumed responsibility for students with disabilities in their co-taught classes. For example, these teachers discussed ensuring students completed assessments and assignments, kept up with work missed when they were absent, and reviewed and reinforced material when needed, such as prior to taking a test. This responsibility for the performance of students with disabilities in the general education curriculum may have influenced the way special educators use their instructional time with these students,

including their small group instructional blocks, with a focus on ensuring they understood and kept up with general education content rather than working on IEP-related skills and goals.

Quality of instruction in co-taught classes. Results of lesson analysis using the QCI indicated that instruction in the majority of co-taught classrooms observed for the purpose of this study was rated in the low to medium quality range. Scores were generally in this range across the eight principles of the QCI, indicating less frequent use of key practices known to support students with disabilities in the co-taught ELA and math classrooms at the middle school level. It is important to note that there was one exception to this finding. The instruction in Judy's ELA and math co-taught classes was consistently rated between 2.50 and 3.0 across the eight QCI principles, indicating high quality implementation of practices known to be effective for students with disabilities. As described in Chapter 4, this teacher was working within a unique school context in which her school had begun school-wide implementation of regular progress monitoring and student intervention. This teacher was also working through a university-based partnership specifically on instructional practices aligned with evidence-based practices in special education, including use of singular objectives, modeling, and providing students with opportunities for guided/support practice. Ratings of Judy's instruction suggest that ongoing professional development and support targeting evidence-based special education practices may facilitate special educators' ability to implement such practices in both co-taught and small group instructional settings.

Interestingly, in this study, ratings of instruction according to the QCI did not consistently match up with individual special education teachers' perceptions of the instruction offered in each of their co-taught classes. In some cases, special educators perceived instruction to be stronger in certain classes, and these perceptions were confirmed by scores on the QCI. However, this was not always the case. This indicated that special educators' perceptions of instructional quality in co-taught classrooms may not necessarily align with evidence-based practices in the field of special education.

In addition, QCI scores indicated that there were not consistent differences in instructional quality according to the setting where instruction was delivered (co-taught general education classroom versus small group, pull-out setting). It is therefore imperative that caution be taken when interpreting findings about the quality of instruction as being a product of co-teaching. In this study, it appeared that the majority of teachers were not implementing evidence-based instructional practices consistently in either setting. It is important to note that, while many of the special educators indicated that their small group instructional time was unfortunately dedicated to addressing general education content, even in these settings where they had complete control over the instruction, they were not consistently implementing those practices known to be effective for students with disabilities. Given the research supporting the use of a very specific set of very specific instructional practices for students with disabilities (e.g., Riccomini et al., 2017), these findings raise the question of when, how, and whether these students receive the specially designed instruction to which they are entitled by law in inclusive educational settings.

Conceptual Framework

With regard to the conceptual framework outlining the impact of working conditions on instructional quality proposed by Bettini and colleagues (2016), the findings of this study support specific working conditions as influencing special educators' opportunities to *learn*, to *plan*, and to *teach* specifically in co-taught settings, including access to professional development opportunities, access to curricular/material resources, and planning time. However, the findings of this study indicate that the general education teacher with whom a special education teacher is paired may be a significant factor impacting his or her opportunities to plan instruction and actually teach within co-taught classrooms. This may, in turn, impact the quality of instruction offered for students in these classes, as special educators have limited ability to implement instructional practices and strategies that students with disabilities require. Furthermore, it is clear that general educators may simultaneously have a direct impact on the quality of instruction offered for students with disabilities included in general education classes, given their reported control over instructional decision-making and implementation in this setting.

Therefore, it is necessary that a conceptual model be proposed outlining the factors that influence special education teachers' ability to implement evidence-based practices specifically in situations where students with disabilities receive the majority of their instruction in inclusive general education classes through co-teaching. The findings of this preliminary study indicate that there are distinct, but partially overlapping sets of factors that influence (a) special educators' roles in co-taught classrooms and (b) the instruction they provide students in these settings. When it comes to special educators'

roles in these classrooms, the findings of this study suggest that the extent to which they are able to take on responsibilities related to planning and instruction are impacted by several school-level factors: access to curricular materials, co-planning time, and access to professional development opportunities. In addition, special educators' roles and instructional responsibilities can be significantly impacted by the general educators' control over planning and instruction, and thus to the personal preferences of each co-teacher with whom they work. When it comes to the instruction special educators provide to students in co-taught settings, there are again school-level factors that impact this instruction, including: the focus of the curriculum, student progress monitoring systems, and teacher evaluation systems. As with special educators' roles in co-taught classrooms, the instruction provided in co-taught classrooms is significantly impacted by the general education teacher, who often retains control over instructional decision making and therefore determines how instruction is structured for all students in co-taught classes. While the general educator impacts both the special educator's role and the instruction provided to students in co-taught classrooms, the findings of this study suggest that larger school culture related to co-teaching and how co-teachers are positioned within the co-teaching dynamic may contribute to the significant degree of control the general educator has in both of these areas.

Implications for Practice

The findings of this study have a number of implications for schools implementing a co-taught instructional model as well as for teacher preparation and education programs.

Schools. It is first recommended that schools provide co-teaching pairs with time during the school day dedicated to collaborative planning, curriculum development, and classroom tasks such as grading. In this study, several special education teachers described having insufficient time specifically dedicated to planning lessons with their co-teachers. This mirrors existing studies that have recommended co-teachers have scheduled planning time during the school day (e.g., Stivers, 2008; Nierengarten, 2013); however, it is imperative that this time be structured so that special education teachers have opportunities to co-plan all aspects of the classroom environment and classroom instruction with each of their co-teachers, if they work with more than one.

Scheduled planning time within the school day should be situated within a larger school and district-wide structure of administrative support for co-teaching as collaboration between two equal educators. This should first include clear school or district-wide expectations for co-teaching, including the purpose of co-teaching and expectations for general education and special education teacher roles specifically as they relate to planning, curriculum development, instructional delivery, and assessment and grading. The teachers in this study described the significant control their general education co-teachers had over classroom structures, planning, and the implementation of instruction. For many of these teachers, their own instructional role and the instruction provided to all students in their co-taught classes was largely determined by the general education teacher rather than developed collaboratively as a team. Therefore, school- and district-wide expectations for co-teaching should be developed, shared, and reinforced with all teachers through the supervision and evaluation process so that all co-teaching

teams work within a predetermined structure rather than placing the burden on the special education teachers to navigate the preferences of each individual general education teacher with whom they work each year.

It is therefore imperative that schools and districts also incorporate structures into the school year that provide co-teachers opportunities to collaborate, such as time during in-service training to collaboratively develop classroom routines and management systems, determine teacher roles and divide responsibilities, and outline such core classroom structures as expected behaviors for students. This should also include professional development focused on co-teaching, including teacher communication, structures and routines for collaboration, and collaborative instruction.

If they are expected to co-teach, special educators should be provided with the same opportunities to be involved in curriculum development and content-related professional development as their general education teaching peers. The importance of school structures that position special educators as full members of content area teaching teams and provide them with opportunities to develop their content knowledge has been noted in previous literature (Morocco & Aguilar, 2002). The results of this study indicate that this is especially important because, in this study, teachers indicated dissatisfaction with their limited role in this process and would have preferred to take on a more substantial instructional role. These findings indicate that special education teachers need higher-level structures in place that provide them with opportunities to develop their content area knowledge and have the same access to curricular materials and knowledge as their general education counterparts. It stands to reason that, with such opportunities to

develop their content-area knowledge and be positioned as equal owners of curricular content with their general education co-teachers, special educators will be able to take on more substantive instructional responsibilities in their co-taught classrooms and may be able to incorporate their special education expertise in ways that can be effective for the students with disabilities in these classes.

Finally, the findings of this study indicate that special educators may not have the time or ability to incorporate the instructional practices known to be effective for students with disabilities in their co-taught *or* small group pull-out classes. It is therefore necessary that schools ensure there is time during the school day for instruction that facilitates students' progress toward their IEP goals and addresses individualized areas of need. Such specially designed instruction may be able to be incorporated into the co-taught classroom. Models of this have been suggested by Friend (2016), who advocates for integrating specially designed instruction into co-taught instructional models, such as parallel teaching and station teaching, by implementing strategies and techniques (such as explicitly designed instruction) that students with disabilities need in conjunction with the grade-level general education curriculum.

For some students, such as those who require significantly different content or specific rules-based reading programs, this may also require that specific blocks of instructional time be set aside that are specifically dedicated to this specially designed instruction. The ability to dedicate this time to the individualized needs of individual or small groups of students must be facilitated by school wide structures. For example, student scheduling must be flexible in nature so that students with similar needs can be

grouped together to receive the interventions/instruction they require with a special educator with expertise in their area(s) of need at a frequency and duration that will allow them to make progress toward their individualized goals. No matter where specially designed instruction is provided for students with disabilities, there must be clear systems in place for tracking the extent to which the instruction and services outlined in students IEPs are being delivered as well as systems for regular progress monitoring to determine the extent to which students are making progress toward their individualized goals and objectives over time.

Teacher preparation programs. Based on the findings of this study, there are also potential implications for teacher preparation. Teacher preparation programs must recognize that, as co-teaching is reported to be a widely-used instructional model across the United States (Magiera & Zigmond, 2005; Pugach & Winn, 2011; Conderman & Hedin, 2014), it is imperative that general education and special educators be prepared for working in these types of classrooms. First, it is clear that all teachers, including those pursuing licensure in general education and those pursuing special education licensure, should be required to complete coursework on collaborative instruction and classroom structures as well as serving students with disabilities in inclusive classrooms. Pre-service teachers should have opportunities to observe and complete student teaching in inclusive classrooms where multiple teachers and/or service providers work together to provide instruction to students with and without disabilities. In particular, special education teachers need opportunities to observe and practice implementing instructional strategies required for students with disabilities (such as individualized instruction) into general

education classroom settings while also providing access to the grade-level curriculum.

Aside from instruction, the findings of this study indicate that special educators may also require preparation in navigating their role within the co-taught classroom as well as their working relationship with their general education co-teacher. As the findings of this study indicate, special educators may need to negotiate their role within a classroom that may be perceived to belong to a general education teacher or a power differential that exists with their general education co-teacher. Such preparation may include role playing scenarios using common scenarios where they may need to negotiate with their general education co-teachers for such things as access to their students during general education instruction, incorporation of specific instructional strategies, and essentially helping them navigate/reduce the power differential with general educators.

It is also important to note that the special educators in this study indicated that much of their general education co-teachers' ability and willingness to work collaboratively and incorporate instructional strategies beneficial for students with disabilities in their classes was related to their understanding of the needs of this population of students. It is therefore imperative that general education teachers be required to complete coursework related to educating students with disabilities, including the history of special education, instructional methods for serving students with disabilities, and methods for education students with disabilities in inclusive classroom settings.

Study Limitations

Several limitations of this study must be acknowledged. First, it must be noted

that the participant sample was limited to eight special education teachers working at the middle school level. These teachers also had been working in their field for an extensive amount of time (between six and 26 years, with six out of the eight teachers teaching for ten years or more). Findings from this study therefore may not be able to be generalized to teachers working at other levels (elementary and high school) or to teachers with less experience in the field. In addition, all teachers in this study worked in inclusive general education classrooms. Therefore, it is difficult to generalize information gleaned from this study to teachers who co-teach in other settings, such as classrooms specifically for students with disabilities.

The sample consisted of teachers who volunteered to have their instruction video recorded and then to participate in individual interviews. The instruction and reported perceptions of this self-selected group of teachers cannot be generalized to all teachers, as teachers who choose to participate in such a study may differ in important ways from teachers who did not or would not choose to participate in such a research study.

It is also important to note that participating teachers' instruction was observed and video recorded on four occasions over the course of one school year. These lesson observations offer a small snapshot of instruction provided over the course of an entire school year and may not be representative of each teacher's instruction as a whole. In addition, the nature of data collection in this study opens the possibility for participant reactivity. Because participants were video recorded and observed by a researcher during their instruction in both the co-taught and small group/pull-out classroom setting, there is the possibility that these teachers acted differently than they normally do during the

course of instruction. For example, special education teachers may have taken on more responsibilities in the co-taught classroom than they typically do, particularly because they were the subjects of the research study (rather than their general education teacher counterparts).

Attempts were made to minimize participant reactivity during lesson observations by explaining to all participants at the outset of the study that the purpose of the research was to observe their work during the normal course of instruction as it occurs on a typical day. Teachers were encouraged to provide instruction in ways they do on a day-to-day basis. In addition, lesson observation data was analyzed in conjunction with survey and interview data to gain as accurate a picture as possible of participants' co-teaching situations and perceptions related to co-teaching and instruction.

Participant reactivity was also possible during survey and interview completion, as participants were aware their responses were being recorded and then would be analyzed. Participants may have felt pressure to respond in certain ways so as not to provide too much sensitive information about their schools, districts, or specific co-teachers. Efforts to minimize reactivity in this way were made by assuring participants that all study-related information would be securely stored and anonymized, and that all information would remain confidential.

Finally, it is important to note that only special educators were the subject of this research study. In future studies, it is critical that the perceptions of general education teachers, administrators, and students be represented to gain a complete and comprehensive picture of co-teaching at the middle school level.

Recommendations for Future Research

Given the dearth of literature on co-teaching and its prevalence as an instructional model, it is imperative that additional studies be completed to further understand the actual instructional practices being implemented in these classes and the roles that general and special educators take on in these classrooms. First, more observations in co-taught classrooms are needed. Studies with larger, representative samples of classrooms and teachers will lend themselves to quantitative analyses that can provide an indication of the quality of instruction being offered to students with disabilities in these classes that can be generalized across schools, districts, and states.

Observations of co-taught classrooms must also include objective measures of general and special education teachers' roles in conjunction with teacher perceptions of these roles to determine how instructional responsibilities are being divided between teachers. This should include not only responsibilities assumed during class (such as for delivering instruction and supporting students with independent practice), but also those teachers fulfill outside of the classroom (such as developing classroom systems, grading, communicating with families, and attending professional development related to curriculum). Teacher surveys and interviews will provide information on those roles and responsibilities that are not easily observed, while also providing information on why roles and responsibilities may be divided the way they are between teachers.

It is of particular importance that research focus on co-teaching pairs who successfully collaborate to provide instruction for students with and without disabilities. In this study, two special education teachers described collaborating with their general

education teachers to plan and implement instruction. They attributed this collaboration to several factors, including being given control in the classroom by the general education teacher and the development of a working relationship over years spent working together with their co-teachers. Further research on the factors that may contribute to collaborative working relationships and shared instructional responsibilities is needed to determine how schools and districts can facilitate actual co-teaching at the middle school level.

Additionally, future studies should investigate the work and perceptions of all the stakeholders in co-teaching situations, including general education teachers, administrators, and students. This will allow for an in-depth understanding of the current state of co-teaching as well as factors that impact the co-teaching relationships, instructional arrangement of co-teachers, and instruction offered in these classes. Finally, it is imperative that future research addresses the extent to which students with disabilities actually receive specially designed instruction during the day in schools that utilize a co-teaching model. Results of this study and others (Baker & Zigmond, 1995; Zigmond & Matta, 2004; Magiera et al., 2005) indicate that teachers have limited opportunities to incorporate evidence-based practices into instruction in the co-taught setting, such as explicit instruction and opportunities for repeated supported practice. As described previously in this section, the instruction provided in co-taught classrooms must be investigated in large-scale studies to determine if similar results are found in co-taught classrooms across districts and states.

Importantly, the results of this study indicate that special educators may also experience difficulty incorporating instruction targeting students' IEP goals and

individualized needs into both co-taught classrooms and small group, pull-out instructional settings. It is imperative that further research be conducted to determine the extent to which these students are receiving the specially designed instruction to which they are entitled by law in any classroom setting during the school day. Future research must identify structures for incorporating such instruction into schools where students with disabilities are educated in inclusive settings so that they have access to the general education curriculum *and* to the individualized instruction outlined in their IEPs, both of which they are entitled to by law.

Conclusion

This study investigated middle school special education teachers' perceptions of their roles in co-taught classrooms as well as the instructional practices implemented in these settings. Qualitative analysis of survey and interview data and quantitative analysis of video recorded lesson observations indicate that evidence-based instructional practices are not consistently implemented in co-taught special education settings or small group instructional settings at the middle school level among the teachers who participated in this study. This aligned with previous research and offers a deeper understanding of the factors that may facilitate or limit special educators' abilities to implement the practices known to benefit students with disabilities in middle schools that utilize a co-taught approach. Further research is needed to determine the extent of this problem in special education and determine factors that can facilitate the successful implementation of evidence-based practices for this population of students in inclusive school settings.

APPENDIX A: RECRUITMENT LETTER

Dear Educator,

Thank you for participating in Project VOISE this year! Your time and effort made a significant contribution to this study, and we so appreciated having you in the study this year.

We are contacting you to see if you would like to participate in an individual interview to share your experiences in your role as a co-teacher as part of Project VOISE: Validating an Observation Instrument for Special Educators.

Why we are conducting interviews. In our work teachers this year, we have had the opportunity to observe lessons in a number of co-taught classrooms. One of the most interesting things has been to watch the various forms co-teaching takes across classrooms and schools. To find out more about this, we were hoping that some special education teachers may have time available to participate in individual interviews about their experiences in co-teaching.

How you were selected. We are reaching out to teachers who participated in Project VOISE during the 2016-2017 school year and co-teach with a general education teacher for any portion of the school day.

Your participation. If you choose to participate in an individual interview, Amanda Redash, a research assistant on Project VOISE, will contact you to set up a date and time that is convenient for you to complete an in-person interview. Interviews can be scheduled any day of the week and at any time (before school, during school, or after school). Interviews can take place at your school or another location of your choice. Interviews will be conducted during the months of July and August 2017 and will take approximately 60 to 90 minutes. In this interview, you will be asked to share your experiences in co-teaching and perception of the factors that contribute to the teaching and learning environment in the co-taught classroom. Interviews will be audio recorded.

Your participation is entirely voluntary. Your decision to participate will not impact your professional status in any way or your participation in Project VOISE. You have the right to withdraw your consent to participate in these interviews without consequence at any time. The main risk of allowing us to use and store your information for research is a potential loss of privacy. We will protect your privacy by labeling your information with a code and keeping the key to the code in a password-protected computer. All information collected will remain confidential and no individual data will be reported to school, district, or state personnel. Completion of interviews will include a \$25 Visa gift card as a thank you from the research team.

How the findings will be used. Information from teacher interviews will be combined with data collected as part of Project VOISE (video recordings of instruction and survey results) in order to fully understand the instructional roles of special educators who work in co-taught classrooms at the elementary and middle school level.

If you would like to participate, please send an email to Amanda Redash at aredash@bu.edu.

If you have questions about your rights as a research subject or want to speak with someone independent of the research team, you may contact the Boston University IRB directly at 617-358-6115.

Thank you,

Nathan Jones
Boston University

Full Name (please print)

Signature

Date

APPENDIX B: RECRUITMENT EMAIL

Dear TEACHER NAME,

We so appreciated having you participate in Project VOISE this year! The time and effort you put in made a significant contribution to this project.

As part of Project VOISE, I would like to interview teachers who work in a co-teaching setting about their work. Interviews will be centered on your thoughts and perceptions of your work in the co-taught classroom and in your role as a special educator in general.

Interviews will be in person and take approximately 60–90 minutes. They will take place during the months of June and July. An interview can be scheduled any day of the week and any time that is convenient for you (before school, during school, after school). Interviews can take place at your school or another location that is convenient for you. Teachers will be provided with a \$25 Visa gift card as an honorarium for their time.

If you are interested in participating in an interview or would like more information, please just reply to this email.

Thank you,
Amanda Redash

	Never	Seldom	Sometimes	Often	Always	Not Applicable
My students' general education teachers make sure that I am informed about instructional plans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have adequate time scheduled for planning and preparation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following question relates to administrative support at your school.

Please indicate to what extent you agree or disagree with the following statements related to **school-based administrative support**.

	Never	Seldom	Sometimes	Often	Always
My administrators enforce school rules for student conduct.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrators understand my instructional responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrators help me improve my instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrators provide me with helpful, informal feedback on my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrators help me to obtain the support I need for teaching the curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrators protect the time I have for instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrators support my students' inclusion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following question relates to the instructional resources available in your school.

	Never	Less than once a month	1-3 Times Per Month	1-2 Times Per Week	3-4 Times Per Week	Every Day
Classroom assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following question relates to instructional groupings in your school.

Please indicate to what extent you agree or disagree with the following statements related to instructional grouping.

Note: If you teach in multiple classroom settings, please choose the answer that best describes your overall experience.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My class sizes are reasonable, such that I have time to meet the educational needs of all my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am assigned classes in which students share similar IEP goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The range of student needs in my class(es) is reasonable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following question relates to your school culture.

Please indicate the proportion of teachers in this school who do the following:

	None	Few	About Half	Most	All
Help maintain discipline in the entire school, not just their classrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take responsibility for helping one another do well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take responsibility for improving the overall quality of teaching in the school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel responsible for ensuring that all students learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	None	Few	About Half	Most	All
Understand what I do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Back me up when I need it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are committed to helping every student learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to make additional comments in response to question 9, please make them here.

The following questions relate to your instructional setting and teaching responsibilities.

Please describe the service delivery model you use to provide instruction. For example, I co-teach in a general education classroom all day or I teach in a self contained classroom.

Please indicate how many **minutes** you spend teaching each of the following subjects on an average **school week**.

Math	<input type="text" value="0"/>
Reading	<input type="text" value="0"/>
Writing	<input type="text" value="0"/>
Social Studies	<input type="text" value="0"/>
Science	<input type="text" value="0"/>
Study, social, or life skills	<input type="text" value="0"/>
Total	<input type="text" value="0"/>

Please indicate the portion of each school day you spend engaged in the following instructional responsibilities.

	All Day	Part of the Day	No Part of the Day
I teach in a self-contained class (the same group of students with disabilities all day)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I co-teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	All Day	Part of the Day	No Part of the Day
I meet with small groups of students outside of the general education classroom for intensive intervention/instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I go into my students' general education class to provide intensive intervention/instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I provide consultation for other teachers and paraprofessionals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to make additional comments in response to questions 11-13, please make them here.

The next item asks about your perceptions of the observation rubric used in Rhode Island's model of educator effectiveness.

Please indicate to what extent you agree or disagree with the following statements about the Framework for Teaching (FFT), the observation rubric used in Rhode Island's model of educator effectiveness.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The Framework for Teaching covers important domains of teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The view of instruction underlying the Framework for Teaching is similar to my own view of instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching behaviors are adequately specified in this instrument.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Framework for Teaching meets the teaching and learning needs specific to my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable being evaluated using this observational instrument.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions ask about your teaching practices and interactions with students.

Please indicate the extent to which you are able to do the following:

	Not at All	Very Little	Some	Quite a Bit	A Great Deal
Use a variety of assessment strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide an alternative explanation or example when students are confused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Craft good questions for your students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement alternative strategies in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get students to believe they can do well in schoolwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help your students value learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivate students who show low interest in schoolwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist families in helping their children do well in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Including this year, how many years have you been teaching?

Including this year, how many years have you been teaching at this school?

If you would like to make additional comments in response to questions 17 and 18, please make them here.

For the following list of credentials and degrees, please check all that apply.

	Teaching Certificate	Bachelor's Degree	Master's Degree	Doctorate (PhD or EdD)
Special Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Early Childhood Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elementary Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Middle Grades Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secondary Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading or English Language Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you checked other in question 20 above, please explain.

The following questions relate to your autonomy as a teacher.

This question refers to your personal classroom and instruction as opposed to teaching responsibilities you may share with the general education teacher.

How much control do you have in **YOUR** classroom over the following areas of your planning and teaching?

	No Control	Minimal Control	Some Control	A Lot of Control	Complete Control
Selecting textbooks and other instructional materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selecting content, topics, and other skills to be taught	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selecting teaching techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluating and grading students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disciplining students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining the amount of homework to be assigned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much control do you have in **your students' general education classroom** over the following areas of your planning and teaching?

	No Control	Minimal Control	Some Control	A Lot of Control	Complete Control	Not Applicable
Selecting textbooks and other instructional materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selecting content, topics, and other skills to be taught	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selecting teaching techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluating and grading students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disciplining students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining the amount of homework to be assigned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate to what extent do you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I feel emotionally drained from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel used up at the end of the workday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel fatigued when I get up in the morning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel burned out from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel frustrated by my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could get a better job, I'd leave teaching as soon as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think about transferring to another school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you could go back to your college days and start over again, would you become a teacher or not?

- Certainly would become a teacher.
- Probably would become a teacher.

- Chances are about even for and against.
 - Probably would not become a teacher.
 - Certainly would not become a teacher.
-

How long do you plan to remain in teaching?

- As long as I am able.
 - Until I am eligible for retirement.
 - Until a specific life event occurs (e.g. parenthood, marriage).
 - Until a more desirable job opportunity comes along.
 - Definitely plan to leave as soon as I can.
 - Undecided at this time.
-

If you would like to make additional comments in response to questions 24-26, please make them here.

Please indicate your gender.

- Male
 - Female
 - Other Gender
-

Which of the following describe your race/ethnicity. (Check all that apply.)

- White or Caucasian
 - Black or African American
 - Hispanic or Latino
 - Native American or American Indian
 - Asian or Pacific Islander
 - Other
-

If you would like to make additional comments in response to questions 28 and 29, please make them here.

Please type your full name.

APPENDIX D: SPRING TEACHER SURVEY

Dear Educator,

Thank you so much for videotaping lessons for our research study titled Validating an Observation Instrument for Special Educators (Project VOISE) examining the use of Rhode Island's observation instrument, the Framework for Teaching (FFT), with special educators. The final task we are asking participants to complete in 2016-2017 is a brief survey about your experiences this school year. We want you to know that this survey, like your videotaped lessons this year, is strictly confidential among members of the VOISE research team.

You may skip any questions you do not wish to answer; however, we hope that you will answer as many questions as you can. If you have any questions about the survey, please contact Nathan Jones, study director, at (617) 353-3295 or ndjones@bu.edu.

The following questions ask about your evaluation experiences in 2016-2017.

During the 2016-2017 school year, how many times were you *formally* observed by a school or district administrator as part of your evaluation?

During the 2016-2017 school year, how many times were you *informally* observed by a school or district administrator?

Select the role(s) of the administrator(s) who formally observed you in 2016-2017 (*please select all that apply*).

- A principal
- An assistant principal
- A district special education administrator
- A district administrator (other)
- Other (please specify)

For the principal listed in Question 3 above, please indicate the extent to which you agree with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My principal is knowledgeable about instruction overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My principal is knowledgeable about special education instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the assistant principal listed in Question 3 above, please indicate the extent to which you agree with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My assistant principal is knowledgeable about instruction overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My assistant principal is knowledgeable about special education instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the district special education administrator listed in Question 3 above, please indicate the extent to which you agree with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My district special education administrator is knowledgeable about instruction overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My district special education administrator is knowledgeable about special education instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the district administrator (other) listed in Question 3 above, please indicate the extent to which you agree with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My district administrator (other) is knowledgeable about instruction overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My district administrator (other) is knowledgeable about special education instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the administrator (other) listed in Question 3 above, please indicate the extent to which you agree with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My administrator (other) is knowledgeable about instruction overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My administrator (other) is knowledgeable about special education instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to make additional comments in response to questions 1-4, please make them here.

The following question asks about your teaching practices and interactions with students.

Please indicate the extent to which you are able to do the following:

	Not at All	Very Little	Some	Quite a Bit	A Great Deal
Use a variety of assessment strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide an alternative explanation or example when students are confused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Craft good questions for your students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement alternative strategies in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at All	Very Little	Some	Quite a Bit	A Great Deal
Get students to believe they can do well in schoolwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help your students value learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivate students who show low interest in schoolwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For Project VOISE, did we observe you in a co-taught classroom this year?

- Yes
- No

The following questions ask about your work with your co-teacher(s). If we observed you teaching with more than one co-teacher as part of Project VOISE, we will ask you to complete the following items for **each** of the co-teachers we observed you teaching with.

Choose the first teacher that we observed you co-teaching with. (We will subsequently ask you about any other teachers we observed you co-teaching with).

What subject did we record you co-teaching with this co-teacher? Check all that apply.

- English language arts (reading and/or writing)
- Mathematics
- Other (please specify below)

Indicate how many **minutes** you spend co-teaching each of the following subjects in an average school **day** with this co-teacher.

English Language Arts (reading and/or writing)	<input type="text" value="0"/>
Mathematics	<input type="text" value="0"/>
Science	<input type="text" value="0"/>
Social Studies	<input type="text" value="0"/>
Total	<input type="text" value="0"/>

Indicate the number of school years (including this school year) you have co-taught with this teacher.

How many **minutes** of *scheduled common planning time* do you have with this co-teacher each week during the school year?

Indicate the extent to which you believe you and your co-teacher are the same or different in the areas listed below.

	Very much the same	Somewhat the same	Neutral	Somewhat different	Very different
Views regarding how to structure lessons and learning activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs about what the curriculum should be	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs about how children learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs about inclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Views about how to adapt and individualize materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Views about how to manage student behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approaches to educational planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you agree with the following statements about your **relationship** with your co-teacher.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Communication between me and my co-teacher is open and honest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I trust one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I resolve conflicts effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My co-teacher and I have adequate time to plan together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I make effective use of the planning time available to us.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you and your general education co-teacher are responsible for the following activities for your co-taught class.

	General education teacher mostly responsible	General education teacher somewhat more responsible	Both teachers share responsibility	Special education teacher somewhat more responsible	Special education teacher mostly responsible
Designing classroom rules and behavior management systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining course content and designing curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning daily lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grading student work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapting materials for individual students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you and your general education co-teacher are responsible for the following activities **during** your co-taught class.

	General education teacher mostly responsible	General education teacher somewhat more responsible	Both teachers share responsibility	Special education teacher somewhat more responsible	Special education teacher mostly responsible
Presenting new content or material to students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring students during small group or individual work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assisting individual students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	General education teacher mostly responsible	General education teacher somewhat more responsible	Both teachers share responsibility	Special education teacher somewhat more responsible	Special education teacher mostly responsible
Assisting individual students without disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Redirecting students and managing student behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In addition to the above teacher, did we observe you co-teaching with another co-teacher?

- Yes
- No

Think about the second co-teacher with whom you taught in a video for Project VOISE this year.

What subject did we record you co-teaching with this co-teacher for Project VOISE this year? Check all that apply.

- English language arts (reading and/or writing)
- Mathematics
- Other (please specify below)

Indicate how many **minutes** you spend co-teaching each of the following subjects in an average school **day** with this co-teacher.

English Language Arts (reading and/or writing)	<input type="text" value="0"/>
Mathematics	<input type="text" value="0"/>
Science	<input type="text" value="0"/>
Social Studies	<input type="text" value="0"/>
Total	<input type="text" value="0"/>

Indicate the number of school years (including this school year) you have co-taught with this teacher.

How many **minutes** of *scheduled common planning time* do you have with this co-teacher each week during the school year?

Indicate the extent to which you believe you and your co-teacher are the same or different in the areas listed below.

	Very much the same	Somewhat the same	Neutral	Somewhat different	Very different
Views regarding how to structure lessons and learning activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs about what the curriculum should be	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs about how children learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs about inclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Views about how to adapt and individualize materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Views about how to manage student behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approaches to educational planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you agree with the following statements about your **relationship** with your co-teacher.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Communication between me and my co-teacher is open and honest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I trust one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I resolve conflicts effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I have adequate time to plan together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My co-teacher and I make effective use of the planning time available to us.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you and your general education co-teacher are responsible for the following activities for your co-taught class.

	General education teacher mostly responsible	General education teacher somewhat more responsible	Both teachers share responsibility	Special education teacher somewhat more responsible	Special education teacher mostly responsible
Designing classroom rules and behavior management systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining course content and designing curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning daily lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grading student work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapting materials for individual students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you and your general education co-teacher are responsible for the following activities **during** your co-taught class.

	General education teacher mostly responsible	General education teacher somewhat more responsible	Both teachers share responsibility	Special education teacher somewhat more responsible	Special education teacher mostly responsible
Presenting new content or material to students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring students during small group or individual work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assisting individual students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assisting individual students without disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	General education teacher mostly responsible	General education teacher somewhat more responsible	Both teachers share responsibility	Special education teacher somewhat more responsible	Special education teacher mostly responsible
Redirecting students and managing student behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions ask about your reflections on teaching this year and in the future.

Please indicate to what extent do you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I feel emotionally drained from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel used up at the end of the workday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel fatigued when I get up in the morning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel burned out from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel frustrated by my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could get a better job, I'd leave teaching as soon as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you could go back to your college days and start over again, would you become a teacher or not?

- Certainly would become a teacher.
- Probably would become a teacher.
- Chances are about even for and against.
- Probably would not become a teacher.
- Certainly would not become a teacher.

How long do you plan to remain in teaching?

- As long as I am able.
 - Until I am eligible for retirement.
 - Until a specific life event occurs (e.g. parenthood, marriage).
 - Until a more desirable job opportunity comes along.
 - Definitely plan to leave as soon as I can.
 - Undecided at this time.
-

If you would like to make additional comments in response to questions 6-9, please make them here.

Please type your full name.

APPENDIX E: INTERVIEW GUIDE

Understanding current role and student caseload

Tell me about your current role as a special educator in your school.

Possible probes:

- Tell me about a typical day at your school.
- What subjects do you teach? In what settings?
- How are students with disabilities grouped across these settings?

Roles and responsibilities

Tell me about the roles you and your co-teacher take on in the co-taught classrooms where you work.

Possible probes:

- What are some of your roles/responsibilities prior to instruction?
- What are some of your roles/responsibilities during instruction?

Tell me about your role in the small group classroom where you work.

Possible probes:

- What are some of your roles/responsibilities prior to instruction?
- What are some of your roles/responsibilities during instruction?

Effective practices for students with disabilities

Tell me about the types of instructional practices you feel are effective for your students with IEPs.

Possible probes:

- What **content** do these students need in order to be successful?
- What **types of instruction** do these students need to be successful?
- What **supports** do you think they need to be successful in working toward their IEP goals?

Tell me about how you implement these types of instructional practices and supports in the co-taught classroom.

Possible probes:

- How do you decide **what** to teach? (Example of what was taught in co-taught class)

- What are the influences on your decisions about **how** to teach? (Example of instruction in co-taught class)

Tell me about your instruction in the small group classroom.

Possible probes:

- How do you decide **what** to teach? (Example of what was taught in small group class)
- What are the influences on your decisions about **how** to teach? (Example of instruction in small group class)

Tell me about how you implement the types of instructional practices you spoke about before in your small group classes.

Here is a list of practices identified in the field of special education for students with disabilities. Take a look over this list. To what extent do you feel you're able to implement these in the co-taught setting? The small group setting?

- Implement the accommodations outlined in individual student's IEPs
- Provide students instruction related to their specific IEP goals
- Provide instruction in cognitive learning strategies, such as mnemonics.
- Provide instruction in strategies related to organization and study skills
- Provide individualized behavior supports
- Modify learning goals for students on an individualized basis
- Provide accommodations and/or modifications on assessments
- Deliver the services outlined in individual student's IEPs
- Provide individualized instruction
- Provide remedial instruction in specific skills
- Monitor individual student's progress toward IEP goals

APPENDIX F: LESSON COVER SHEET

Project VOISE Lesson Plan Cover Sheet

Name	Co-Teacher Name (if applicable)
Lesson Date	Lesson Start/End Time (i.e., 10:00-10:45AM)
Subject	Grade level
Number of Students with Disabilities	Number of Students w/out Disabilities
<p>Instructional Setting:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Resource room/pullout <input type="checkbox"/> Substantially separate classroom/separate location <input type="checkbox"/> Co-Teaching <ul style="list-style-type: none"> <input type="checkbox"/> Parallel (divide class and both teach same content) <input type="checkbox"/> Centers (divide content/students and teach mini lessons) <input type="checkbox"/> Small group (divide class and work with students with highest needs) <input type="checkbox"/> Teaming (divide content and alternate teaching) <input type="checkbox"/> One teach/one assist (one teacher leads the lesson and the other supports individual students as needed) <input type="checkbox"/> Other (please explain): _____ 	
<p>Lesson Objective (What will your students be able to do by the end of the lesson?):</p> 	
<p>Rationale and Context</p> <p>Why are you teaching this objective to these students?</p> <p>What might be useful for us to know about the context of this lesson?)</p>	

If applicable, please list the name of the curriculum reflected in this lesson (e.g., Wilson Reading Program)

Select the statement that best applies to the curriculum you are using in your videotaped lesson.

- The curriculum I use is highly structured and it involves little decision making on my part.
- The curriculum I use provides structure for my lessons, but I can still make decisions to include strategies and activities that are appropriate for my student.
- The curriculum I have is either inappropriate or non-existent and I have to find other instructional resources or make my own.

APPENDIX G: QUALITY OF CLASSROOM INTERACTIONS (QCI)

Principle	Description	Score Level 3
Principle 1	<p>Models skills/concepts appropriately and with ease: This behavior focuses on how well the teacher directs the attention of students on what they are to learn and do, followed by a clear presentation of the content, provision of examples, and is typically preceded by guided practice. Modeling is designed to help students learn how an expert engages with a skill, strategy, process and to make it clear how they should go about the task.</p>	<p>Teacher explains or models using precise language and uses concise examples. The teacher maintains students' academic engagement during the model. The model promotes students' understanding of targeted content or main objective of the lesson (which should be obvious to you as the observer). The teacher seems to use students' responses to determine the need for additional modeling or varied explanations. Teacher should move on if students are responding easily or model more if they are struggling. In fact, teacher may choose to model very little if students are responding correctly at the appropriate rate.</p>
Principle 2	<p>Uses timely checks to ensure student understanding: This behavior focuses on how effectively the teacher gathers evidence on the level of understanding students have of the content to inform further instructional practices (e.g. are student responses demonstrating clear understanding or should the material be retaught address errors). This checking has two purposes: answering the questions causes the students to elaborate upon the material they learned and augment connections in their long-term-memory, and this checking also tells the teacher whether parts of the material needs to be retaught.</p>	<p>Teacher frequently checks on students understanding by asking students questions or asking them to respond to instructional prompts or tasks. The methods for securing student responses are varied. Teacher circulates through room, and actively monitors to see how students are performing on targeted tasks. Teacher attends to student responses to determine need for additional or varied explanations/modeling. To ensure students understand, teachers should provide students with specific feedback when they do not understand, tell them to ask a peer for help, ask other students if they agree or disagree.</p>
Principle 3	<p>Provides adequate think and response time for students: This behavior focuses on the structure a teacher creates to check</p>	<p>Teacher offers students adequate wait time respond to questions or prompts (approximately 3 seconds for higher level skills/strategies, less for more skill</p>

	for understanding through clear and consistent expectations of how students are to respond to questions and provisions of appropriate wait time. For skill-based instruction where the goal is to achieve automaticity, wait time should be less than it is for instruction designed to achieve a more thoughtful response.	based instruction like decoding or basic fact fluency). Students do not lose attention because the wait time is appropriate. Teachers offers clear expectations or provides structures for how students can respond.
Principle 4	<p>Engages students in learning throughout the lesson:</p> <p>This behavior focuses on how well a teacher captures and holds student attention as evidenced through frequent and purposeful checks for understanding, supportive guided instruction, and attentiveness to signs of student disengagement.</p>	Teacher engages students throughout the lesson with only minimal downtime (less than 10 percent). Students seem to be cognitively engaged in the lesson (they are actively responding with no prompting, they raise their hands quickly, they are discussing content with little supervision from the teacher). If students' attention wanes, teacher is able to redirect quickly. Redirections are minimal to nonexistent.
Principle 5	<p>Ensures high rate of success for students:</p> <p>This behavior focuses on the judgment of the teacher as evidenced by the rate of success students have in practice opportunities. Sufficiently challenging content produces a high percentage of correct responses and a smaller but significant percentage of incorrect responses that suggests students are being challenged.</p>	Teacher supports students in understanding the instruction. Students seem able to complete tasks with a general understanding of the targeted content. They receive support as needed and appropriate for the type of practice (guidance during practice). For instance, when a student does not know the answer, he or she may be asked to turn to a peer for help, or the teacher provides him or her with the correct answer, or the teacher provides error correction. The error rate is low (see at end of document) when they are provided they are there to support learning.

Principle 6	<p>Encourages effort from all students: This behavior focuses on how well the teacher encourages each student to achieve as evidenced through the quality of a teacher's modeling, timeliness and equity of checks for student understanding, and adaptation of lesson content to sufficiently challenge all students.</p>	<p>The teacher encourages students to do their best and supports students in their attempts; insists that students complete their work with accuracy and does not overlook students who are not responding or not responding correctly; insists that all students participate by distributing practice opportunities across all students. Students may even begin to initiate responses or provide ideas without being prompted by the teacher.</p>
Principle 7	<p>Transitions from one activity to the next in an appropriate fashion: This behavior focuses on the preparations a teacher has made for the lesson as demonstrated by the efficiency in which a teacher is able to begin a lesson and flow from one activity to another.</p>	<p>Teacher quickly transitions from one activity to the next. She has materials ready and can quickly distribute them. Additionally, she employs efficient procedures to help students with the transition. Students seem clear about the fact that the teacher intends to waste little time going from one activity to next because they get to work right away on the next task.</p>
Principle 8	<p>Maintains good pacing: This behavior focuses on a teacher's economy of time usage as evidenced by the quality of teacher modeling, the frequency and quality of checks for student understanding, and the equity of practice opportunities provided to support student engagement.</p>	<p>Teacher maintains lesson intensity from introduction to closing activity. Teacher immediately engages students, repeatedly verifies student(s) are following along, incorporates student(s) responses quickly, with little to no down time. Teacher avoids digressions. The teacher provides all students with multiple practice opportunities throughout the lesson and provides academic feedback or acknowledges that the students are responding correctly. (It helps to count the number of examples students get to practice.)</p>

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VITA

