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UNIVERSITY OF NORTHERN COLORADO

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The Graduate School

PERCEPTIONS REGARDING THE EFFECTIVENESS OF
CO-TEACHING PRACTICES TO SUPPORT STUDENTS
WITH LEARNING DISABILITIES IN SECONDARY
INCLUSIVE CLASSROOMS: CASE STUDY

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

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College of Education and Behavioral Sciences
School of Special Education

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This Dissertation by: Aeshah Abdullah Alsarawi

Entitled: *Perceptions Regarding the Effectiveness of Co-teaching Practices to Support Students with Learning Disabilities in Secondary Inclusive Classrooms: Case Study*

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ABSTRACT

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Despite the prevalence of students with specific learning disabilities (SLDs) and using co-teaching in inclusive classrooms, there is a lack of empirical evidence regarding the effectiveness of co-teaching for these students in the secondary level. Therefore, the purpose of this case study was to expand the research on supporting secondary students with SLDs in co-taught inclusive settings. More specifically, the researcher examined the perceptions of students and co-teachers regarding the co-teaching practices to support students with SLDs after conducting classroom observations. The study took place in a high school located in Colorado. The participants included seven co-teachers, four students with SLDs, and four students without disabilities. The school and the participants were selected purposefully. The data were collected by using classroom observations, artifacts, field notes, and individual interviews. Data were organized by NVivo and analyzed by following Yin's model (2011), which included five steps: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding.

The findings regarding the co-teachers' perceptions were presented in seven main themes: (a) co-teaching as a school-wide practice, (b) co-teachers' practices to create an interactive learning environment, (c) challenges regarding meeting grade-level expectations, (d) providing support to make content accessible for all students, (e) co-

teachers' comfort levels in their area of expertise, (f) benefits of co-teaching, and (h) keys of supporting students with SLDs in co-taught classrooms. Three main themes were used to summarize the perceptions of students with SLDs: (a) benefits of being included in co-taught classrooms, (b) roles of co-teachers, and (c) preferred instructional strategies in a co-taught classroom. Four main themes were used to present the perceptions of students who were nonidentified with disabilities: (a) benefits of co-teaching, (b) roles of co-teachers, (c) students' perceptions of group work, and (d) drawbacks of being in a co-taught classroom.

The discussion of the findings revealed co-teaching represented a path to meet the needs of heterogeneous learners in inclusive settings, not only the needs of students with SLDs. The participants' perceptions confirmed the complexity of understanding the effectiveness of co-teaching at the secondary level. More methodological efforts are needed to identify the procedural definition to robustly measure the effectiveness of co-teaching. Future research should focus on specific aspects such as grouping strategies, instructional practices, co-teachers' roles, and challenges of secondary education that overlap with co-teaching models and individual characteristics of students and co-teachers. Practitioners and leaders at school and district level are recommended to continue working on identifying critical components of effective co-teaching to bridge the gap between individual goals of students with SLDs and grade-level standards. Giving voices to co-teachers and students with the alignment of school and district philosophies contribute into establishment high-quality co-teaching framework, relevant professional development to teaching partners, and evaluation suitable to the growth of co-teaching pairs.

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اللهم لك الحمد كما ينبغي لجلال وجهك وعظيم سلطانك

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CHAPTER I

INTRODUCTION

Background of the Study

Over the past two decades, there have been legislative calls to provide students with disabilities (SWDs) the same opportunities for education as their peers without disabilities. These legislative calls demanded public schools to continue providing fair and appropriate services and increasing the quality of education for all students across the United States. In 1975, a comprehensive law was passed that combined various pieces of federal and state legislation regarding the education of SWDs: the Education for All Handicapped Children Act (Public Law 94-142). In 2004, this legislation was revised and became the Individuals with Disabilities Education Act (IDEA); it ensured the right of SWDs to receive extra assistance as they needed but allowed them to engage in the same activities as students without disabilities in the general classrooms whenever possible. The Every Student Succeeds Act (ESSA, 2015), the reauthorized version of the No Child Left Behind Act (NCLB, 2002), imposed accountability on special education teachers (SETs) as well as general education teachers (GETs). Under this act, both SETs and GETs were required to improve their teaching and increase academic achievement for all students, including SWDs, while teaching as much as possible in the least restrictive environment (LRE; Bristol, 2015; Scruggs & Mastropieri, 2017; Shin, Lee, & McKenna, 2016).

As a result of the legislative accountability movement, the number of SWDs has increased in general education classrooms. Based on the 40th *Annual Report to Congress*, the percentage of K–12 SWDs served under IDEA (2004) for at the minimum 80% of their school day in the regular classrooms increased from 57.2% to 63.1% from 2007 to 2016 (U.S. Department of Education, 2018). More recently, the National Center for Education Statistics (2019) released the *Condition of Education* report, which showed that 34% of SWDs in U.S. schools who were educated between 80% to 90% of their school day in the general classrooms were students with specific learning disabilities (SLDs).

The accountability movement in education not only has influenced on the prevalence of SWDs in general education classrooms but also has influenced the teaching practices used. For instance, co-teaching has become a widely practiced instructional service delivery model compared to the solo teaching model previously used to support SWDs in inclusive settings across the nation (Stefanidis & Strogilos, 2015; Strieker, Gillis, & Zong, 2013). Co-teaching is an instructional model in which SETs and GETs equally share the responsibility for planning lessons, delivering the academic curriculum, assessing learning, and managing the behaviors to meet the needs of a heterogeneous population of students in an inclusive educational setting (Cook & Friend, 1995; Fluijt, Bakker, & Struyf, 2016). The needs are especially prevalent for students with SLDs who represent the highest population of secondary SWDs in general education classrooms (National Center for Education Statistics, 2019). Despite the increasing prevalence of students with SLDs and the use of co-teaching in inclusive classrooms, more research is needed to determine if co-teaching is the best service delivery option for these students

within and across content and grade levels in inclusive settings (Murawski & Bernhardt, 2015).

Current research evidence is insufficient to demonstrate the efficacy of the co-teaching model to support SWDs by capturing the real practices in inclusive classrooms (Harbort et al., 2007). Researchers have indicated the difficulty of generalizing and quantifying the effectiveness of co-teaching to support all students because co-teaching practices across school districts and states are inconsistent in terms of administrative support and the school culture (Friend, 2016; Murawski & Bernhardt, 2015). Moreover, teachers' attitudes toward inclusion might impact the quality of their co-teaching practices to support SWDs (Garmon, 2005; Strogilos, Stefanidis, & Tragoulia, 2016). Also, previous experiences of co-teachers and the challenges they face regarding implementing co-teaching represent confounding variables that might affect the quality of conducting quantitative research on the effectiveness of co-teaching (Hamdan, Anuar, & Khan, 2016; Ruben, Rigelman, & McParker, 2016). Many qualitative, quantitative, and single-case design studies have been conducted to examine the attitudes and self-efficacy of SETs and GETs toward co-teaching. However, existing literature on co-teaching revealed very few qualitative exploratory studies on co-taught classes that met the educational needs of students with SLDs (Cronis & Ellis, 2000). Additionally, existing research on co-teaching has been more focused on the elementary school level than the secondary school level (Griffin, League, Griffin, & Bae, 2013; Patel & Kramer, 2013; Ruben et al., 2016; Strieker et al., 2013; Whisnant, 2015). Therefore, further research is still needed to determine if co-teaching represents an effective service delivery option for students with SLDs in inclusive secondary settings.

Given the lack of research in the secondary school levels and the complexity of measuring the effectiveness of co-teaching, scholars should expand research about co-teaching studies to include co-teachers in secondary schools. Additionally, they need to consider the input of students with SLDs, who represent the majority of SWDs in inclusive settings, and their peers who have nonidentified disabilities. Students' perceptions about the feasibility and effectiveness of programs and instructions are often overlooked in the literature, although their input could yield unique insights to help educators make decisions (Austin, 2001; Wilson & Michaels, 2006). Within this exploratory case study, multiple data collection methods were used to generate multiple sources of qualitative data pertaining to participants' perceptions regarding co-teaching practices to address the needs of students. I took an in-depth look at the perceptions related to the effectiveness of co-teaching as a model to meet the needs of secondary school students with SLDs.

An exploratory qualitative research design was used to have a better understanding of the concept of the effectiveness of collaborative teaching for secondary students with SLDs based on the perceptions of co-teachers and students. According to Yin (2011), qualitative study contributes insights on current or generated concepts that might help to expound the targeted phenomena in a complex context. Within the domain of qualitative research, an exploratory case study approach was used. The type of the research questions indicated the research design, a case study, was aligned with the need to investigate a complex phenomenon (Yin, 2014). The targeted phenomenon regarding the effectiveness of co-teaching to support students with SLDs was studied based on examining the perceptions of co-teachers, students with SLDs, and their peers who were

nonidentified with disabilities. The perceptions were explored after observing the actual practices of co-teachers in inclusive classrooms, which required an in-depth and extensive description to fully comprehend.

Statement of the Problem

Despite the prevalence of students with SLDs and using co-teaching in inclusive classrooms, empirical evidence is lacking regarding the effectiveness of co-teaching for students at the secondary level. Although some researchers documented the relevant variables of using co-teaching to support SWDs focusing on the attitudes, perceptions, and perspectives of SETs and GETs (Elliott, 2014; Garmon, 2005; King-Sears, Brawand, Jenkins, & Preston-Smith, 2014; Strogilos et al., 2016); the challenges of co-teaching (Fluijt et al., 2016; Hamdan et al., 2016; Pratt, 2014); and the experience of using co-teaching (Pancsofar & Petroff, 2013; Ruben et al., 2016), a gap existed in the current research. Extensive data have been accumulated at elementary schools regarding the effectiveness of co-teaching (Carson, 2011; Cremin, Thomas, & Vincett, 2005; Whisnant, 2015; Woods, 2017). There is a need to continue investigating the perceptions regarding effective co-teaching across different content areas with integrating the actual co-teaching practices to support secondary students with SLDs who represent the highest population of SWDs in inclusive settings. Given the limited research on the effectiveness of co-teaching to support students with SLDs at the secondary level, it is important to consider the difficulty of examining the direct relationship between co-teaching and academic achievement because co-teaching practices across school districts and states are inconsistent (Friend, 2016; Murawski & Bernhardt, 2015). This inconsistency might result from variables related to the school culture (Woods, 2017), teachers' attitudes

toward including SWDs, their experiences of co-teaching, challenges of co-teaching (Hamdan et al., 2016; Ruben et al., 2016), and school administrative support (Friend, 2016; Murawski & Bernhardt, 2015).

A lack of consistent research findings of real practices in co-taught classes has further discomposed identifying and measuring the effectiveness of co-teaching in inclusive settings (Harbort et al., 2007). Thus, existing research, exploratory in its nature, has raised more relevant questions about the actual practices of co-teaching at the secondary level in one school with regard to the perceptions of co-teachers and the input of students with SLDs and their peers who are nonidentified with disabilities. Hopefully, the findings of this study could help to advance the body of knowledge on co-teaching and set the stage for quantifying the effectiveness of co-teaching to support all students, taking into consideration the possible overlapping of other variables in the literature.

Significance of the Study

This exploratory qualitative study was important because it could help to address the gap between research and practice regarding supporting students with SLDs in secondary, inclusive, co-taught settings. From a research perspective, this study could extend research on using co-teaching to support students at the secondary level. The study might pave the way for conducting further explanatory quantitative studies to examine the effectiveness of co-teaching with considering the relationships between variables that might impact the effectiveness of co-teaching on the academic achievement of students with SLDs and their peers without disabilities. In terms of their practical value, the recommendations of this study could contribute to enhancing the meaning of effective co-teaching by considering the input of the parties experiencing co-teaching in

inclusive classrooms (SETs and GETs, students with SLDs, and students who are nonidentified with disabilities). Additionally, the study results could be used to guide co-teachers to be more aware of their perceptions and practices to support all students in inclusive co-taught classrooms. Moreover, outcomes of this study could help policymakers at the district level to provide relevant and meaningful professional development to address the needs of students in inclusive co-taught classrooms. Finally, this study represented an attempt to shed light on the accountability for and the quality of instruction provided in inclusive classrooms by focusing on the effectiveness of co-teaching to support students by considering the practices and the perceptions of both SETs and GETs as well as the perceptions of all students including students with SLDs.

Purpose of the Study

The purpose of this case study was to expand research on supporting secondary students with SLDs in co-taught inclusive settings. More specifically, the perceptions of students and teachers regarding the co-teaching practices to support students with SLDs were investigated after conducting classroom observations. This case study took place in one of the high schools in the Rocky Mountain area of Colorado. The following research questions were used to address the research purpose.

Research Questions

- Q1 How do co-teachers (SETs and GETs) perceive their co-teaching experience when they have students with SLDs in their classrooms?
- Q2 How do secondary students with SLDs perceive co-teaching practices in inclusive classrooms?
- Q3 How do secondary students who are nonidentified with disabilities perceive co-teaching practices in inclusive classrooms?

The research questions were derived from the literature to fill existing gaps in research and to contribute to improving relevant practices to meet the needs of students with SLDs and their peers nonidentified with disabilities in inclusive co-taught classrooms. Exploring phenomena depends on the reality as constructed by individuals in their natural settings (Creswell, 2014). Thus, the purpose of this study was addressed based on examining the perceptions of individuals who had experienced co-teaching at the secondary school level after observing the actual practices in inclusive classrooms.

The first research question focused on examining the perceptions of the co-teachers based on their experiences. Co-teachers represented capable partners who used their roles as mediators to construct students' knowledge through interaction and collaboration, which supported the research finding indicating teachers were in a position to profoundly impact student success (Eryilmaz, 2014; Knoell & Crow, 2013). Continued investigation of co-teachers' perceptions was needed because these perceptions might contribute to shaping their practices that could be reflected in the quality of supporting all students in inclusive classrooms (Elliott, 2014; Harbort et al., 2007; Kinne, Ryan, & Faulkner, 2016; Ó Murchú, 2011). Therefore, studying co-teachers' perceptions could address the lack of the corresponding collaborative practices in inclusive classrooms to help SWDs have access to an academic curriculum and show purposeful social engagement with their typical peers (Nagro & deBettencourt, 2017; Pratt, 2014; Whisnant, 2015).

The second and the third research questions sought the perceptions of students with SLDs and their peers who were nonidentified with disabilities about co-teaching practices. According to Creswell (2014), including multiple perspectives in qualitative

studies lead to results that reflect the diversity and variation in lived experiences of the phenomena. Moreover, co-teaching requires both SETs and GETs to share the responsibility for a heterogeneous group of students in inclusive settings (Cook & Friend, 1995). Thus, it was illogical to examine the perceptions regarding effective co-teaching practices to support students without eliciting their input because they represented the main targeted sample of this study. Studying the perceptions of the students, including those with SLDs, added to the existing research on inclusive education and co-teaching at the secondary level.

Researcher Stance

In this research study, I used myself as a human instrument to explore the effectiveness of co-teaching practices based on the perceptions of the participants. I used observations, field notes, and artifacts, and conducted face-to-face interviews. Then, I filtered and analyzed the collected data from different resources. For this reason, I had to declare certain biases to the research study based on my teaching experience and personal background. In 2011, I was involved in teaching students with SLDs as a SET, resource room teacher, and collaborative teacher in general education classrooms. I saw myself as experiencing many stories that reflected different attempts to put the principles of social and academic accessibility into real practice by providing appropriate support for students with SLDs to create inclusive education for them and to meet their academic and social needs.

My previous experience as a teacher for three years in Saudi Arabia, my home country, was focused on delivering an alternative curriculum for students with SLDs in special education classrooms and resource rooms. I felt dissatisfied and frustrated

because many of my students were able to meet the academic expectations of the general curriculum, yet they were socially segregated from their typical peers. I tried to advocate for them to maximize their opportunities to be educated with their grade-level peers in the same general education classes and offered my help to GETs to provide the needed accommodations based on their Individualized Education Programs (IEPs). My attempts failed because the GETs did not perceive working as partners as a favorable practice to meet the IEP goals of these students.

In 2013–2014, when I moved to the United States to complete my graduate degree, I took a different position as a co-teacher to support students with SLDs in inclusive classrooms. I had three different co-teaching experiences in inclusive classrooms. The common challenge of those experiences was the difficulty in evaluating the effectiveness of the co-teaching models to help all students, especially those with SLDs, to meet their IEP goals. I discovered the co-teaching models were so different from each other, and the attitudes and experiences of the co-teachers were different. I wondered to what extent my perceptions of the effectiveness of co-teaching in meeting the needs of all students, including students with SLDs, were similar or different from my co-teachers' perceptions. Did we work as mediators and partners to scaffold learning opportunities for these students? Did we try to meet students' IEP goals? Additionally, if we were partners, were we aware of matching our perceptions of the effectiveness of co-teaching with our real practices and the perceptions of students? I was also worried that the students with SLDs would not receive the needed support to facilitate their academic learning and social interaction in inclusive classrooms.

My reflections on my cumulative experiences raised many inquiries regarding the meaning of the effectiveness of co-teaching based on discrepancies between the co-teachers' perceptions and practices and the perceptions of the students themselves. My goal in this study was to separate my experiences and roles as a SET, resource room teacher, and co-teacher. In this current study, I sought a rich understanding regarding whether co-teaching represented an effective service delivery model to support students, including those with SLDs, through the research lens of a social constructivist approach.

Definition of Terms

Co-teaching. A service delivery model that is comprised of at least two qualified professionals who are equally responsible for heterogeneous learners in a particular classroom for specific curriculum and goals with shared accountability and recourses (Cook & Friend, 1995). In the current study, I focused on co-teaching as an instructional model responding to inclusive education in which SETs and GETs equally shared the responsibility for planning lessons, delivering the academic curriculum, assessing learning, and managing the behaviors of a heterogeneous group of students in a general education classroom (Fluijt et al., 2016).

Every Student Succeeds Act. This legislation was a revised version of the No Child Left Behind Act (NCLB, 2002). The ESSA (2015) emphasized accountability within the school system and required that all students, including SWDs, meet academic achievement goals at high levels (National Center for Education Statistics, 2019).

General education teachers. Responsible for providing content area instruction in the general education program and are certified in a core academic subject.

Inclusive education. This term is used when SWDs are educated with their typically developing grade-level peers in the same general education classes and receive high-quality instruction, required interventions, and appropriate support to successfully access the core curriculum (Alquraini & Gut, 2012).

Individuals with Disabilities Education Act. This Act (IDEA, 2004) was the reauthorization of the Education for all Handicapped Children's Act (Public Law 94-142) of 1975. It guaranteed free and appropriate public education to every student with a disability (SWD) and access to the regular classroom and curriculum to the maximum extent possible (Hernandez, 2013). Additionally, it encouraged collaboration between GETs and SETs (Hernandez, 2013).

Least restrictive environment. Refers to SWDs being educated to the maximum extent possible with their peers without disabilities (IDEA, 2004).

Secondary schools. Schools defined as middle schools targeting students in sixth through eighth grade levels and high schools targeting students in 9–12 grade levels. In this study, the selected secondary school was a high school.

Special education. Refers to a range of specialized programs, designed instruction, and services provided free to families to support the needs of SWDs (IDEA, 2004).

Special education teachers. Teachers certified to teach SWDs in K–12th grade and are responsible for adapting general education curricula to meet the needs of these students, providing specially designed instruction for a range of subject areas.

Additionally, they might teach basic life skills such as literacy and communication techniques (U.S. Department of Labor, 2015).

Specific learning disability (SLDs). According to the Colorado Department of Education (CDE, 2019) and in line with IDEA (2004), a *student with a SLD* is a student who is diagnosed as having a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Specific learning disability does not include learning problems that are primarily the result of: visual, hearing, or motor disabilities; intellectual disability; serious emotional disability; cultural factors; environmental or economic disadvantage; or limited English proficiency. (p. 8)

Students with disabilities. According to the IDEA (2004), a student with a disability (SWD) is someone determined to fall within one of these categories: intellectual disability, hearing impairment, visual impairment, speech or language impairment, serious emotional disturbance, orthopedic impairment, deaf-blindness, traumatic brain injury, specific learning disability, multiple disabilities, or other health impairments. Additionally, these students are eligible to receive special education services and other related services.

Summary

This chapter provided an introduction to the topic of a qualitative case study focusing on exploring the perceptions regarding the effectiveness of co-teaching practices

to support students with SLDs in inclusive secondary education. This chapter included several sections related to the problem background, the problem statement, the research purpose, the importance of the study, the research questions, the researcher stance, and definitions of terms. In Chapter II, aspects related to the historical and legislative backgrounds of co-teaching to support SWDs in inclusive classrooms and the implementations, experiences, attitudes, and challenges regarding co-teaching are presented. Moreover, the characteristics of students with SLDs in secondary schools and how effective co-teaching practices could be used to support these students are discussed. Some research gaps are summarized at the end of the chapter. Chapter III includes a detailed description of the methodology used in terms of participants, the methods, and the process of data analysis. Chapter IV consists of the answers for each research question. Finally, Chapter V includes a discussion of the results, the limitations and restrictions of the study, the implications, and recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

The goal of this research study was to explore perceptions regarding the effectiveness of co-teaching to support students with SLDs in inclusive secondary classrooms. In this chapter, several aspects of inclusion and co-teaching are addressed from three perspectives: policy, practices, and research findings. First, the U.S. government's historical influences and legislative movements to ensure these students' equal access to the general education classroom and curriculum are reviewed. These legislative changes across the country eventually laid the groundwork for using co-teaching as an instructional delivery model in inclusive educational settings to support students with SLDs. Then an overview of secondary students with SLDs and a detailed description of the relevant practices of co-teaching models that have been used in inclusive classrooms are provided. Finally, the research findings and gaps and variability related to the implementation of co-teaching practices are highlighted to lay the foundation to investigate the purpose of this research.

Search Procedures

Multiple steps were followed to identify topics relevant to this review. Online databases such as Eric, Summon, Psych Info, Ebsco, and ProQuest Dissertations and Theses were used. Also, the Google Scholar search engine was used as an initial tool for exploring related work. Keywords and phrases used to find the articles included students with specific learning disabilities in inclusive classrooms, co-teaching, co-teachers,

perceptions and attitudes toward co-teaching, co-teaching and inclusive education, inclusive practices, students with disabilities, support students with specific learning disabilities in co-taught classes, co-teaching and secondary schools, and the effectiveness of co-teaching. Reference pages were used from research, practitioner articles, and dissertations to review further sources. Finally, the Council for Exceptional Children website was used to review books on co-teaching and students with SLDs.

Inclusion Criteria

Qualitative, quantitative, and meta-analysis studies that reviewed or informed about inclusive education co-teaching practices regarding SWDs were included. The variety and depth of articles helped to develop a broad understanding of the topic. Selected articles in this literature review were written in English and published in peer-reviewed journals. Consultation topics were excluded from this review. Studies that focused on teaching SWDs and with SLDs in the least restrictive environment (LRE), perceptions of co-teaching, perceptions of inclusive education, and attitudes and experiences of teachers about working with SWDs in co-taught inclusive settings were selected. Selected studies in this review defined co-teaching as an instruction delivery model in which special and general education teachers are sharing the responsibilities of inclusive classrooms. Themes based on literature had been specified with consideration of the use of headings to synthesize the main ideas in the following section of this chapter.

Historical and Legislative Background of Inclusive Education and Co-Teaching

Legislation movements over the last two decades helped shape the instructional delivery model for SWDs in general-education classrooms. Parental efforts generated

special education and inclusive education in the United States. In the 1950s, SWDs were home-schooled, lived in residential institutions, or were uneducated (Kode, 2002; Yell, 1998). At that time, the Children with Learning Disabilities Association and other organizations were formed by a group of parents of individuals with disabilities (Sacks, 2009). During the Civil Rights Movement, more organizations were established to advocate for children with disabilities and obtain their educational rights (Lanear & Frattura, 2007; Yell, 1998). In the 1960s, the U.S. government provided federal support for SWDs (Braddock, 1987; Yell, 1998). This support led to more SWDs accessing public-school services but no law was enacted at the state or federal level to put this recommendation into practice. The Elementary and Secondary Education Act was issued in 1969 (Yell, 1998). This Act mandated funding for education and represented a step toward increasing SWDs' access to public education and educational services.

In the 1970s, the inclusive education model, wherein SWDs were educated with their peers without disabilities, started to be recognized due to parental advocacy (Connelly & Rosenberg, 2009). These parental efforts led to many court cases to ensure protection and equal learning opportunities for SWDs. The Supreme Court found that based on *Brown v. Board of Education* in 1954 and *Mills v. the D.C. Board of Education* in 1972, SWDs must have learning opportunities and access to the general education classroom equal to that of their peers without disabilities (Yell, 1998; Yell, Rogers, & Rogers, 1998).

In 1975, Congress issued the Education for All Handicapped Children Act; its aim was to provide states with federal funding to educate SWDs in public schools (Yell et al., 1998). This law also mandated that schools meet the needs of these students in the LRE.

In 1990, the Education for All Handicapped Children was reauthorized and became the Individuals with Disabilities Education Act (IDEA, 2004; Yell, 1998). The IDEA required that public schools provide special education services for SWDs, now including transition services for these students to prepare them to be more independent in their postsecondary life.

In 2002, the No Child Left Behind Act was issued to enhance the accountability and quality of education for all students (U.S. Department of Education, 2019b). This Act was revised to meet SWDs' needs based on IDEA (2004). The NCLB was reauthorized in 2015 and became the Every Student Succeeds Act (ESSA, 2015), which required public schools to improve achievement for all students, increase accountability, focus on highly qualified teachers, and use evidence-based practices. In response to this act, special education has adopted higher academic expectations regarding SWDs' ability to learn in the same settings as their peers without disabilities. Such legislation has imposed accountability for SETs and GETs, requiring them to improve their teaching and increase academic achievement for all students, including SWDs, while teaching as much as possible in the LRE (Bristol, 2015; Scruggs & Mastropieri, 2017; Shin et al., 2016).

Current legislation challenges SETs and GETs to provide SWDs meaningful access to general education classrooms (McKenna, Muething, Flower, Bryant, & Bryant, 2015; Solis, Vaughn, Swanson, & McCulley, 2012). Supporting SWDs and ensuring they have access to the general curriculum requires a new perspective on teaching practices and the development of collaborative models in which GETs and SETs must redefine their roles and act as partners in students' success (Strieker et al., 2013). Therefore, co-teaching (contrasted with the solo teaching model) has become a widely

practiced instructional service delivery model in the United States; in co-teaching, SETs and GETs work together with all students in inclusive classrooms (Stefanidis & Strogilos, 2015; Strieker et al., 2013). This expansion in the use of co-teaching in general education classrooms requires that SETs and GETs have meaningful interactions. By considering an inclusive classroom as an interactive context, co-teachers share their experiences and integrate their roles to meet students' diverse needs; the GETs' content knowledge is combined with the SETs' adaptation and intervention expertise (Conderman & Hedin, 2014; King-Sears et al., 2014; Pratt, 2014).

In summary, the concept of providing SWDs with support based on the legislation movements compared to the segregation model in the past represents the fundamental evidence of redefining the relationship between GETs and SETs and using co-teaching in inclusive settings (Friend, 2008; Savich, 2008). Students with disabilities must be educated in the LRE to the maximum extent with their peers without disabilities. In response to the legislative demands, co-teaching has been used as an option for educating SWDs in general education classrooms in many schools across the United States. Although no explicit law explicitly addressed the co-teaching model, it has become one of the most popular teaching models in response to legislative reforms in the field of special education (Friend, 2008). However, school districts that use co-teaching approach must show the progress students make toward their IEP goals as they learn in general education classrooms, an obligation of IDEA (U.S. Department of Education, 2015a).

Overview of Secondary Students with Specific Learning Disabilities

Students with learning disabilities are one of the highest incident disabilities across U.S. schools (U.S. Department of Education, 2019c). *The 41st Annual Report to Congress* (U.S. Department of Education, 2019a) indicated the percentage of students under this category of disability increased by at least 10% between 2008 and 2017 for four of the 49 states and Colorado was one of those states (10.4%). The same report indicated the percentage of students with SLDs ages 12 through 21 served under IDEA across U.S. schools was 6.9% in 2017. As mentioned in the definition used for SLDs by the Colorado Department of Education (2019) based on IDEA (2004), SLDs stem from information processing difficulties that affect reading, writing, and math skills. Students with learning disabilities were also increasingly defined in the literature as being one of the highest incident disabilities often associated with other social and behavioral problems besides academic issues (Gage, Lierheimer, & Goran, 2012; Lane, Carter, Pierson, & Glaeser, 2006; Mazher, 2019). The following sections highlight common characteristics of secondary students with SLDs that impact their academic, social, and behavioral skills.

Academic Characteristics

Some research findings showed secondary students with SLDs experienced more academic challenges compared to their peers without disabilities (Fuchs, Fuchs, Mathes, & Lipsey, 2000; Lane, Pierson, & Givner, 2004; Mazher, 2019). Based on the National Center for Education Statistics (NCES, 2019), the academic achievement gap between secondary students with SLDs and their peers without disabilities on literacy and math still exists. Overall, students with SLDs often show difficulties related to their

metacognitive abilities, which refer to capabilities to monitor their understanding and processing information (Lane et al., 2004; Mazher, 2019). Therefore, these difficulties affect other functional abilities required to learn the curriculum and master relevant academic skills including reading, writing, solving math problems, comprehending texts, and organizing and recalling information (Mazher, 2019).

Students with SLDs most often face difficulties with decoding and understanding printed language (Snowling, 2000). They also show problems related to language sounds, especially in phonemic awareness, which means segmenting and blending sounds of letters (Vaughn, Bos, & Schumm, 2007). As a result of these problems, students with SLDs struggle in recognizing words, analyzing sounds, spelling, and understanding word problems (Snowling, 2000; Vaughn et al., 2007).

Secondary students with SLDs might show difficulties in writing. According to Graham and Harris (2000), writing is a challenging process in general for all students. Swanson, Harris, and Graham (2013) stated that the writing process requires complex and several skills such as handwriting, typing, spelling, and sentence structure. They also emphasized the importance of metacognitive strategies such as planning, evaluating, monitoring, drafting, and revising. However, writing becomes more challenging for students with SLDs at the secondary level because by the time students reach middle or high school, the act of teaching writing has diminished (Applebee, 2000). Moreover, writing at the secondary level is used to demonstrate understanding and knowledge (Olson, 2007). Additionally, students with SLDs often show less academic motivation and academic self-confidence to persist efforts with writing compared to their peers

without disabilities (Graham & Harris, 2000; Swanson et al., 2013; Wong & Butler, 2012).

Metacognitive difficulties result in academic pressure on students with SLDs in secondary inclusive settings because teaching organization skills and recalling information are gradually eliminated (Mazher, 2019; Olson, 2007). Some students with SLDs struggle with performing the mental calculation, solving math problems, following verbal directions, and comprehending oral information (Lane et al., 2006; Swanson et al., 2013; Wong & Butler, 2012). Moreover, it should be noticed that the lack of organization skills and memory issues represent characteristics that might cause difficulty for students with SLDs in learning academic content successfully (Swanson et al., 2013; Wong & Butler, 2012).

Social and Behavioral Characteristics

There are significant differences in expectations of teachers regarding students' behaviors, the impact of peer pressure, self-esteem, and the value of satisfying relationships in the secondary level (Lane et al., 2004). Thus, the characteristics of secondary students should be considered, particularly social and behavioral for those with SLDs. It has been found that deficits in metacognitive abilities of students with SLDs influence social and behavioral aspects of their lives such as their attitudes toward themselves and others and difficulty in recognizing people's feelings and emotions (Wong & Butler, 2012). Moreover, deficits in metacognitive abilities affect the level of self-confidence and motivation (Swanson et al., 2013; Wong & Butler, 2012). Other research findings indicated that students with SLDs often experience feelings of failure, lack of friendships, negative attitudes from others, and high levels of bullying, which

increase the risk of showing misbehavior, frequent absences, and school dropouts (Bear, Mantz, Glutting, Yang, & Boyer, 2015; Lane et al., 2006; Ryan, 2000). According to a report recently issued by the National Center for Learning Disabilities (NCLD, 2019), students with SLDs are more than twice as likely to be suspended as students without disabilities. The report indicated loss of the instructional time due to suspending these students increased the risk of repeating a grade level and dropping out of school. Failure to understand the behavioral and social needs of these students contributes to high dropout rates (Lane et al., 2004; NCLD, 2019). Since students with secondary SLDs often show different social and behavioral characteristics than their peers without disabilities, SETs and GETs need to consider their needs in inclusive classrooms.

Students with Specific Learning Disabilities and Inclusion

Inclusive education for SWDs entails the educational practice of providing equal academic and social access for SWDs along with their peers without disabilities in the same general education classrooms with the provision of appropriate support to meet their individual needs (Alquraini & Gut, 2012; Gilhool, 1989). Although the LRE mandate in IDEA (2004) stated that educating SWDs in inclusive classrooms is a favorable practice, contrasting arguments have arisen in the literature on this topic (Fuchs & Fuchs, 1994; Zigmond, 2003). This argument contains two parts. One is focused on the time SWDs should spend in the general education classroom and the other is focused on inclusive practices' effectiveness in helping these students meet their goals based on their IEPs (McLeskey, 2007).

Much attention had been paid to including students with SLDs along with students with other disabilities. Raymond (2008) explained that students who are

identified with SLDs show different characteristics than students with severe disabilities. The differences relate to physical characteristics' invisibility and the corresponding complexity of the learning disability that impacts the academic attainment and social adaptation of students who are labeled as having SLDs (Raymond, 2008). Some research findings led to arguments about teaching students with SLDs in general education classrooms in terms of whether their instructional needs could be met by more collaboration between GETs and SETs (Ford, 2013; McLeskey & Waldron, 2011; Sailor & Roger, 2005; Skrtic, Harris, & Shriner, 2005; Tremblay, 2013; Wang, Reynolds, & Walberg, 1987). Therefore, individualized support when teaching these students in general education classrooms must be considered. However, concerns have arisen about unsecured feasibility and effectiveness of inclusive practices to meet the academic needs of students identified with SLDs when they spend the full school day in general education classrooms (Fuchs, Fuchs, & Stecker, 2010; Zigmond, 2003; Zigmond & Kloo, 2009).

On the other hand, over the past 20 years, the percentage of students with SLDs who are spending more than half time of their day in general classrooms has greatly increased (U.S. Department of Education, 2010). From 1989 to 2008, the number of students with SLDs who spent 80% or more of their school day in the general education classroom increased from 22% to 62% (McLeskey & Waldron, 2011). The *37th Annual Report to Congress* indicated more than 90% of SWDs, including these with SLDs, were educated in a general education classroom and had IEPs goals (U.S. Department of Education, 2015b). To facilitate this inclusion, co-teaching was frequently used as a service delivery model (Friend, 2016; Murawski & Bernhardt, 2015). Zigmond and Kloo (2009) claimed full inclusion with co-teaching is the preferred practice to support

students with SLDs in most of the United States. However, in terms of research, the effectiveness of co-teaching to support SWDs (focusing on SLDs) has been seldom investigated and the research gaps were clear as the extant research was focused only on secondary education (Takacs, 2015). This lack of research confirmed the need for further research on co-teaching to help students with SLDs in secondary inclusive settings by examining the perceptions of GETs and SETs as well as students about co-teaching practices in inclusive learning environments.

Differentiation to Support Students with Specific Learning Disabilities

Differentiation is a recommended practice in inclusive classrooms (Gibson, 2013; Scruggs, Mastropieri, & Marshak, 2012). The use of differentiated instruction is significant for many students with academic challenges but it can be more critical for those with SLDs (Gibson, 2013; Mastropieri et al., 2006). The effective use of differentiated instruction requires teachers to show their commitment to making learning accessible for students by using flexible teaching practices in terms of environment arrangements, tiered instruction, and assessment procedures (Gibson, 2013; Tomlinson, 2001). Differentiation helps to meet the needs of a nonhomogeneous group of students in their abilities, learning styles, and interests (Scruggs et al., 2012; Tomlinson, 2001). It aligns with the universal design for learning (UDL), which means “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Thompson, Johnstone, & Thurlow, 2002, p. 1). One of the limitations of the use of differentiated instruction is some students might feel segregated or stigmatized due to using less challenging learning materials than their peers (Ford, 2013; Scruggs et al., 2012). Thus, teachers should be aware of adjusting the

curriculum based on the appropriate level of the students (Tomlinson, 2001) and incorporating differentiated material within the general teaching as needed (Mastropieri et al., 2005). It should be noted that students with SLDs at secondary level need differentiated instruction because they experience the rapid pace of teaching and less time allocated to strategic instruction for learning content information (Mastropieri et al., 2006). Examples of differentiation practices that could benefit SLDs in general education classrooms include student groupings, tiered instruction, collaborative work, and co-teaching (Gibson, 2013). However, these practices heavily depend on the collaboration between SETs and GETs to make informed instructional decisions (Gibson, 2013; Mastropieri et al., 2006).

Response to Intervention and Co-Teaching to Support Students with Learning Disabilities

The response to intervention (RTI) model was introduced to the U.S. education system after President George W. Bush signed IDEA (2004). Since then, RTI has become a common model used across different states (Goldie, 2015). The RTI model has been expanded to elementary, middle, and high school levels but the implementation of this model could vary depending on school levels (NCLD, 2019). Regardless of the variation of putting RTI into practice, there are agreed foundations about the goals and the tiers of RTI. Some scholars discussed the idea of implementing co-teaching under RTI to support students (Goldie, 2015; Murawski & Hughes, 2009). This section includes an overview of RTI and its relationship with IDEA and co-teaching.

Response to intervention represents a method of identifying students with specific learning disabilities and supporting at-risk students (Fuchs & Fuchs, 2006). It is an alternative approach to the discrepancy model, which depends on the discrepancy

between intelligence quotient and achievement scores to identify and support students with learning disabilities within the general education system (Murawski & Hughes, 2009). According to the National Dissemination Center for Children with Disabilities (2012),

RTI is a process that schools can use to help children who are struggling academically or behaviorally. One of its underlying premises is the possibility that a student's struggles may be due to inadequacies in instruction or the curriculum either in use at the moment or in the child's past. (para. 1)

Fuchs and Fuchs (2006) stated that the aim of RTI is to provide appropriate support for struggling students to prevent them from academic failure by using research-based practices. They referred to three main components of RTI: (a) identification process, (b) individualized interventions, and (c) monitoring of a selected student's response to the interventions. According to the National Center on Response to Intervention (2010), there are three tiers of interventions with two categories of support: academic and behavioral. The primary tier focuses on using research-based instruction as a class wide intervention. This tier focuses on the accessibility of learning by using UDL, differentiation, and accommodations within general education settings. If students do not show enough improvement based on the progress monitoring in the primary tier, they are moved to the secondary tier; it is different than the primary tier in terms of the length of time devoted to interventions and the level of intensity of support. If students do not show the desired progress, they are referred to the tertiary tier. This tier includes the most intensive intervention where modifications are provided and core standards are changed. If a student does not respond to tertiary tier interventions, further reevaluation

of the interventions is needed. The progress monitoring of students based on the RTI model could be used for possible referral to more restrictive environments such as special education classrooms.

The IDEA (2004) and RTI advocate to create an integrated system of general and special education by considering students' needs to achieve core academic standards (Goldie, 2015; Murawski & Hughes, 2009). Special education teachers are considered as experts and partners of the GETs in the RTI process due to the focus of RTI on instructional and behavioral strategies for struggling learners (Murawski & Hughes, 2009). Therefore, collaboration between SETs and GETs is required to make the general curriculum accessible to the whole learners. Moreover, both SETs and GETs are responsible for providing the needed support under the three tiers.

Co-teaching is a collaboration practice that complies with IDEA (2004) and meets RTI goals (Murawski & Hughes, 2009). Co-teaching is an instructional delivery model in which a GET and a SET share the accountability of all student learning, including those with SLDs, within general education classrooms (Friend, 2016). Co-teaching allows SETs and GETs to organize their efforts in order to use flexible strategies and provide intensive support as needed (Murawski & Hughes, 2009). Co-teaching helps to provide educational opportunities to students without disabilities and struggling students, whether they identified with SLDs and had IEPs or were nonidentified with disabilities (Murawski & Hughes, 2009). However, co-teachers still need RTI services when considering inclusion (Goldie, 2015).

Implementing RTI without collaboration and co-teaching is like moving a canoe through an eddy at the confluence of two rivers. The result is two systems trying

to go in the same direction, but they both end up just going in circles. It is far better to work together to navigate the currents and to pilot our children down the river of success. (Murawski & Hughes, 2009, p. 274)

Murawski and Hughes (2009) suggested SETs and GETs could use the tiers of instruction under RTI by following co-teaching models provided by Cook and Friend (1995) based on data-driven methods. They thought that by using co-teaching under the RTI model, students with learning disabilities could remain active members in the LRE to the maximum extent possible. They also indicated these students did not lose instructional time due to the transition to more restrictive environments and the uniformity in the expectations by the SETs and GETs who work as partners in the same environment.

Co-Teaching Models

Co-teaching is an instructional practice in which GETs and SETs equally share responsibility for delivering academic content and managing the behaviors of a diverse group of students in a general education classroom (Fluijt et al., 2016). As mentioned earlier in this chapter, co-teaching is a service delivery model that is not required by law (Friend, 2016). However, it is aligned with the educational demands mandated by federal laws in terms of providing all students equal learning opportunities, improving teaching quality, and reducing stigma for SWDs (Friend & Cook, 2013; Scruggs, Mastropieri, & McDuffie, 2007b). Also, because co-teachers share teaching responsibilities in inclusive settings, the student-to-teacher ratio is reduced (Dieker, 2001; Friend & Cook, 2013). Therefore, the ultimate expectation of including SWDs in inclusive co-taught classrooms

is to integrate and maximize social and academic learning opportunities with their typical peers (Cook & Friend, 1995; Idol, 2006).

The research findings indicated the GETs usually showed their expertise in the curricular content while the SETs showed their expertise in adaptations used to meet the individual needs of students with IEPs (Keefe, Moore, & Duff, 2004; Musti-Rao, Hawkins, & Tan, 2011; Rytivaara, 2012; Van Heck, 2017; Wasburn-Moses, 2005). Co-teaching is comprised of five models: (a) one teaching-and-assisting/teaching-and-observing, (b) station teaching, (c) parallel teaching, (d) alternative teaching, and (e) team teaching (Cook & Friend, 1995).

One Teaching-and-One Assisting Model

In this model, both teachers work in the room but one leads the instruction by delivering the academic content. At the same time, the other teacher systematically helps the lead teacher by providing additional tools to support students' learning or observing them while they work (Cook & Friend, 1995). This is the most commonly used practice wherein the GET leads the instruction and the SET helps the SWDs (Majchrzak, 2015; Scruggs et al., 2007b). In addition, this is the most basic model because it does not require intensive communication or planning between the co-teachers (Scruggs, Mastropieri, & McDuffie, 2007a). However, students might inquire about a teacher's authority in the classroom if he or she continues to undertake a lesser role (Cook & Friend, 1995). Therefore, it is recommended that the assistant teacher take field notes regarding the academic or social behaviors of a specific group of students or all students (Friend & Cook, 2013).

Station Teaching Model

Station teaching occurs when each teacher is accountable for teaching different or similar content curriculum in different sections of the classroom. The class is split into two parts and each co-teacher has responsibility for planning and delivering the assigned content for the assigned section (Friend & Cook, 2013). Station teaching could also entail the use of multiple spaces in which students can work in groups or independently on enhancement activities (Scruggs et al., 2007a). This model of co-teaching requires more planning time than the previous model and might be used with a smaller teacher-student ratio, wherein both teachers play active teaching roles to support all students (Cook & Friend, 1995). This model is favorable for SWDs and requires students be placed in varied groups regardless of their disabilities (Takacs, 2015).

Parallel Teaching Model

This model of co-teaching entails SETs and GETs providing instruction concurrently to separate groups of students with diverse needs in the same classroom (Cook & Friend, 1995; Villa, Thousand, Nevin, & Liston, 2005). Therefore, this model helps students become more engaged in learning opportunities and individualized instruction. Furthermore, students should be matched with the teacher and with students who help increase their academic and social potential based on their strengths and areas of needs. This model requires considerable planning to ensure both co-teachers cover the same material and communicate well with each group (Cook & Friend, 1995).

Alternative Teaching Model

Alternative teaching occurs when one teacher is responsible for delivering instruction to the majority of students, whereas the other teacher is accountable for

working with a small group of students. From a teacher's perspective, this model offers instructors the flexibility to function separately while teaching identical lessons (Johnson & Brumback, 2013). However, co-teachers must avoid stigmatizing SWDs by using pullout groups to reteach them specifically (Cook & Friend, 1995). On the other hand, Cook and Friend (1995) recommended the use of alternative teaching to address students' social needs by providing positive role models for students who showed challenging behaviors.

Team Teaching Model

Team teaching entails the GET and the SET having equal voices and roles in instruction by taking turns teaching the class as a whole (Cook & Friend, 1995). This model is the most challenging because it requires an extensive amount of communication and collaboration from the teachers (Cook & Friend, 1995; Scruggs et al., 2007a).

Regardless of the co-teaching model, SETs and GETs need to demonstrate high levels of commitment to deliver the instruction, plan the lesson, evaluate student work, and contribute to SWDs' IEPs (Cook & Friend, 1995; Friend, 2008, 2016). In addition, the research findings showed these models provides varying levels of support for SWDs as well as different perceptions, skills, and co-teachers' abilities. These variations lay the foundation for the need to explore the effectiveness of co-teaching to support all students including those with SLDs.

In the following section, problems about the complexity of studying the effectiveness of co-teaching as an instructional delivery model are addressed based on the relevant literature and research gaps related to the effectiveness of co-teaching to support students with SLDs in secondary education are highlighted.

Perceptions of Co-Teaching

Perceptions are mental descriptions of concepts that refer to an impression based on an individual's experience and consciousness (Hockenbury & Hockenbury, 2007). Studying perceptions might help educators make informed decisions to improve teaching practices (Yu, 2014). In this section, a wide range of viewpoints about co-teaching are addressed based on real experiences of co-teachers and SWDs involved in studies described Perceptions of Students with Disabilities.

Students are essential stakeholders in the transformation of inclusive education and relevant practices. However, their perceptions in the area of investigating the feasibility and effectiveness of programs and instructions are often overlooked (Austin, 2001) but their input could yield unique insights to help educators make decisions (King-Sears, Jenkins, & Brawand, 2018; Wilson & Michaels, 2006). Historically, studies on co-teaching as an inclusive instructional practice based on SWDs' perceptions have been limited and were based on many outcomes, motivations, and reflections of co-teachers as a part of schoolwide inclusive practices. Examples of limited, scattered studies are reviewed below.

Understanding students' perceptions of SWDs leads one to consider how their views of their classrooms could shape and affect learning outcomes (Austin, 2001; Kortering & Braziel, 1999; Wilson & Michaels, 2006). For instance, Wentzel (1997) indicated students with SLDs who had positive perceptions about their inclusive classroom environments showed more positive interactions with their teachers and completed their schooling successfully. Wentzel concluded that regardless of the students' ability levels, they believed that teachers could positively influence their

academic efforts and motivate them to make progress. Wilson and Michaels (2006) conducted a mixed-method study using a survey in literacy classes to examine students' perceptions of co-teaching. There were 346 secondary students (127 SWDs and 219 students without disabilities) in the study. The researchers found significant differences between the two groups. However, both groups responded positively to the co-teaching survey. They indicated their scores increased and their literacy skills improved. They also said they would like to be included in co-taught classes in the future. The SWDs mentioned they were able to access the general curriculum and develop their academic skills. Their peers without disabilities thought co-teaching encouraged them to create complicated constructs and literacy skills. Wilson and Michaels concluded the positive perceptions of students with and without disabilities of co-teaching provided should encourage co-teachers to work more carefully and coherently to create inclusive learning communities. These communities should reflect the feeling of appreciation and support for all students regardless of their abilities to reach their utmost potential.

Teachers must consider students' perceptions to be more aware of their day-to-day teaching and make meaningful decisions to address their implicit and explicit ideas (Williams & Burden, 1997; Yu, 2014). Bessette (2008) reported the findings of a study of combinations between students, GETs and SETs, and perceptions of co-teaching in elementary and middle school classrooms. The study included 85 students, 20 GETs, and 11 SETs. Students' drawings were used as representations of their perceptions and as reflection tools for the teachers. Students' illustrations of co-teaching were analyzed. Co-teachers' responses to the drawings led to reflective discussions about adjustments to improve co-teaching. Based on teachers' interpretations of the students' illustrations,

Bessette proposed that proactive role distribution, support structures, and trust building were critical factors in solidifying co-teaching.

More recently, King-Sears et al. (2018) conducted a study on students' perceptions of a middle school algebra co-teacher team that included a GET, a SET, and students with and without disabilities. The students completed surveys about their co-teaching experiences. Although most SWDs thought the GET led the instruction, students without disabilities also valued the SET's role. Moreover, the majority of students responded that the SET or both the SET and GET provided support with clarification and help; few students responded that the GET was the only one responsible for explaining things in various ways. The students' opinions provided a better understanding of the SET's importance in a valued as well as supportive role versus a secondary role in this co-taught classroom. Given the importance of the students' awareness regarding the co-teaching team, it was important to investigate to what extent they perceived the effectiveness of co-teaching as one of the inclusive schoolwide practices.

Shogren et al. (2015) conducted a study to investigate students' experiences and document their perceptions of their schools' cultures and the related practices to support all students. The study involved 86 students with and without disabilities from six schools known as exemplary schools regarding the use of inclusive schoolwide practices. One of the themes Shogren et al. discovered was co-teaching as several students indicated that having two teachers in the same classroom was "helpful." However, students who participated in this study did not provide detailed interpolations on what and why structures and practices of co-teaching worked well in their inclusive classrooms.

Shogren et al. recommended conducting further research to include the voices of students about inclusive teaching practices because students play a role in influencing the decisions of stakeholders and in the development of inclusive education.

Based on the highlighted sample of the research findings, it seemed SWDs' perceptions regarding co-teaching were important. Moreover, their opinions were fertile ground for further investigation. Cook-Sather (2002) recommended expanding research on students' perspectives and recognizing that students experience policies and practices daily; therefore, they could share ideas to improve existing educational practices.

Perceptions of Co-Teachers

Several studies are focused on the perceptions, responsibilities, and roles of co-teachers (Bessette, 2008; Cook, McDuffie-Landrum, Oshita, & Cook, 2011; Elliott, 2014; Strogilos & Tragoulia, 2013; Weiss & Lloyd, 2002; Whisnant, 2015). According to Williams and Burden (1997), studying the perceptions of these teachers is crucial because they must reflect on their beliefs and others' beliefs and expectations regarding their learning and teaching responsibilities. Williams and Burden added that teachers must be aware of their perspectives to justify their own beliefs and practices. Thus, if co-teachers explored their perceptions based on their experiences in inclusive classrooms, this might help them make insightful decisions in their day-to-day instruction.

By viewing a co-taught inclusive classroom in an interactive context, co-teachers could share their experiences and integrate their roles to meet students' diverse needs (Murawski & Swanson, 2001; Scruggs et al., 2007a; Solis et al., 2012). The GETs' content-knowledge expertise is combined with the SETs' adaptation and intervention expertise (Conderman & Hedin, 2014; King-Sears et al., 2014; Pratt, 2014). Some

research findings showed co-teachers perceived their co-teaching experiences as opportunities for them as partners to support all students. For instance, Ruben et al. (2016) conducted interviews and focus groups to examine the perceptions of in-service and pre-service GETs and SETs regarding the implementation of co-teaching in a middle school. Of the 120 coded responses, 35 indicated positive experiences for co-teachers. Common themes used to describe their positive experiences with co-teaching in inclusive classrooms were reflection, renewal, exchanging information and experiences, gaining new ideas, using resources, and learning how to differentiate instruction and materials for diverse students in the same classroom. Positive relationships, effective collaboration, and the clarity of roles and responsibilities were also found to be common themes reflecting their positive experiences. Gallo-Fox and Scantlebury (2016) reported similar findings from a longitudinal study. Participant teachers stated co-teaching helped them develop themselves professionally by renewing their energy toward their teaching practices, expanding their classroom curricula, reflecting on their performance, promoting their personal growth, and developing management skills.

However, concerns regarding the misunderstanding and confusion of co-teachers about their roles present and that could not be overlooked in the literature focused on co-teachers' perceptions (Kinne et al., 2016; Scruggs & Mastropieri, 2017; Shin et al., 2016; Stefanidis & Strogilos, 2015; Weiss & Lloyd, 2002). For example, some researchers observed that the perceptions of the SET's role in a co-taught classroom was to be a subordinate instead of being fully involved as an equal functional partner in co-teaching (Keefe & Moore, 2004; Rytivaara, 2012; Scruggs et al., 2007a; Wasburn-Moses, 2005). Other research findings highlighted the limited role of SETs to support struggling

students only. For instance, it was found that although GETs and SETs were placed in the same classroom, SWDs often received instruction by the SET as if they were in a special education or a solo-taught classroom (McDuffie, Mastropieri, & Scruggs, 2009). Majchrzak (2015) investigated factors affecting collaborative teaching by using a survey on the perceptions of co-teaching. Twelve of 92 co-teachers were randomly selected to participate in semi-structured interviews. One of the conclusions drawn was the GETs were perceived as doing more than the SETs in the inclusive co-taught classroom. Weiss and Lloyd (2002) stated that one of the possible reasons for the lack of understanding of the role of the SET was the co-teaching was used to provide the SWD with access to the general curriculum with no thought being given to how effective it was. More recently, Ashton (2010) conducted a critical discourse analysis between two co-teachers in middle school. The findings of this study showed SETs more often restricted the learning of the SWDs rather than helping them to achieve the same standards as their peers without disabilities. Other researchers identified the variation of co-teachers' perceptions was due to the types of co-teaching experiences contributing to the formation of attitudes, which, in turn, affected their practices in inclusive classrooms (Brownell, Smith, Crockett, & Griffin, 2012; Hamdan et al., 2016; Pancsofar & Petroff, 2013; Stefanidis & Strogilos, 2015; Strieker et al., 2013). Despite the varied opinions regarding co-teaching experiences, an agreement existed on the importance of continuing to investigate co-teachers' practices, considering their perceptions (Brownell et al., 2012; Hamdan et al., 2016; Mulholland & O'Connor, 2016). Also, there was a need to examine how co-teaching affected student learning (Takacs, 2015; Tremblay, 2013; Wilson & Michaels,

2006). Some of the relevant literature on the effectiveness of co-teaching is reviewed in the following section.

Effectiveness of Co-Teaching

The number of SWDs who have been educated with their peers in general education classrooms has increased during the last two decades (U.S. Department of Education, 2019c). Co-teaching has been recognized as a practical model for complying with the education mandate to support all with high-quality instruction (Woods, 2017). However, conflicting and limited evidence was based on empirical studies regarding the viability of co-teaching to meet the needs of SWDs, including those with SLDs, in inclusive settings (Ford, 2013; Harbort et al., 2007). The topic of the effectiveness of co-teaching in supporting SWDs was addressed in the literature based on two perspectives. Some studies focused on the influence of shared responsibilities and relationships of co-teachers on their practices, which might reflect on the quality of learning outcomes and co-teachers' perceptions (McGhie-Richmond, Irvine, Loreman, Cizman, & Lupart, 2013; Sileo, 2011), and other studies investigated the impact of co-teaching on student attainment (Johnson, 2012).

Sharing Responsibilities and Interpersonal Relationships

Cook and Friend (1995) described effective co-teaching as GETs and SETs equally sharing the responsibilities of co-planning, co-instructing, and co-assessing the learning of all students in an inclusive classroom. Sileo (2011) defined effective co-teaching as a practice that requires sharing the instructional responsibilities of leading class discussions, facilitating small group activities, or incorporating technology to meet the needs of diverse learners. Conderman, Bresnahan, and Pedersen (2009) described

sharing responsibilities and clarifying expectations as the keys to building successful relationships between co-teachers. Ford (2013) pointed out that sharing the highlighted responsibilities resulting from co-teachers' relationships might lead to the most appropriate learning pathway for SWDs.

Batts (2014) and Johnson (2012) argued that if co-teachers miss opportunities to discuss expectations regarding the learning needs and abilities of students, planning and delivering content for instruction, designing the curriculum, or evaluating students' success would be challenging. Kohler-Evans (2006) studied the co-teaching relationship between GETs and SETs at a secondary school in Seattle. The main theme found from the structured interviews as the most critical component of a positive co-teaching work relationship was common planning where co-teachers clarify the expectations of learning and their responsibilities as partners. Tran (2013) predicted that if GETs or SETs within the co-teaching partnership were not performing their agreed-upon tasks, the work of the other teacher might suffer. In contrast, Tran added that as long as the co-teachers perceived themselves as partners, the sharing of instructional tasks tended to be more habitual and innate for both co-teachers in favor of their students.

On the other hand, several researchers noted that effective co-teaching mainly depended on building a strong collaborative relationship between co-teachers (Casale-Giannola, 2012; Shamberger, Williamson-Henriques, Moffett, & Brownlee-Williams, 2014; Tzivinikou, 2015). Wilcox and Angelis (2012) reported similar findings in a study on high-performing middle schools. They reported that close collaboration within the co-teaching relationship increased the quality of their instruction and thus more effectively supported the needs of all students. Social and interpersonal skills required for building

positive relationships included active listening, involving through questioning, and disagreeing respectfully (Killen, 2007). If team members did not possess these basic social skills, they would not be able to work together efficiently (Tran, 2013). Isherwood and Barger-Anderson (2008) investigated factors that contributed in creating effective co-teaching by conducting a qualitative study. The study took place in western Pennsylvania using interviews and observations. The researchers discovered that an interpersonal relationship might influence the relationship between co-teachers. Johnson and Johnson (2009) recommended that co-teachers demonstrate the following skills in their relationships: (a) building trust, (b) clear communication, (c) acceptance and support, and (d) resolving conflicts. In the co-taught inclusive classroom, success is less dependent on teachers' possessing similar philosophies and more dependent on their ability to maintain open minds and to be willing to compromise (Solis et al., 2012). The success of co-teaching also relies on teachers' personalities and mindsets, as well as on co-teachers' ability to know their roles while being supportive, flexible, reflective, insightful, and open to change (Shin et al., 2016). Mulholland and O'Connor (2016) found overcoming the interpersonal conflicts and challenges associated with the implementation of co-teaching improved the fundamentals of teachers' cohesive capacity. Their shared awareness of the necessary philosophies, skills, and practices was essential to their successful collaborative practice, which might ultimately be reflected in their learning outcomes.

Co-Teaching and the Achievement of Students

Limited quantitative and qualitative research evidence supported the effectiveness of co-teaching for SWDs (Murawski & Bernhardt, 2015; Murawski & Swanson, 2001;

Woods, 2017). In this section, some relevant research attempts are highlighted. Also, gaps based on research findings regarding examining the impact of co-teaching on SWDs with SLDs are mentioned.

In terms of qualitative studies, a meta-synthesis research conducted by Scruggs et al. (2007a) targeted the elementary and secondary school level about using co-teaching as an effective instruction model to support inclusive education. Interestingly, over a 16-year period, they found only 32 qualitative articles from 1989–2005 highlighted the lack of research on investigating co-teaching practices. On the other hand, Murawski and Bernhardt (2015) stated that many qualitative and single-case design studies had been conducted on co-teaching but the need to determine which co-teaching model was the best service delivery option for SWDs within and across content and grade levels had not been examined enough. A systematical literature review by Woods (2017) supported the argument regarding the lack of researcher studies addressing the effectiveness of co-teaching within a grade level. Woods reviewed qualitative and quantitative studies; 57 research studies were conducted within the past decade and five were published within the past two decades. Of these studies, only eight studies were conducted at the high school level, three had combined information from middle and high school levels, and 13 were conducted across elementary, middle, and high school levels.

With regard to limited and conflicting results from quantitative studies, a meta-analysis of synthesis literature studies conducted by Murawski and Swanson (2001) from 1989 to 1999 examined the impact of co-teaching on student academic and behavioral outcomes. They expressed their concerns when they found only six quantitative studies out of 89 articles on the effectiveness of co-teaching for SWDs. Measures used in these

studies included grades, achievement in reading and math, attitudes, referrals due to behavioral issues, attending, and social outcomes. Murawski and Swanson (2001) reported that the overall mean effect sizes was .40, and they described this score as moderately effective. However, only four of the six studies identified the categories of disabilities of the participant students. It should be noticed that students who were in the lowest 25th percentile for student progress in class and students with SLDs were often included in these studies. Moreover, only two studies described the influence of co-teaching on students who were at the average or above achievement level, and none of the studies reviewed in this analysis reported any data regarding students who were identified with moderate or severe disabilities. Therefore, the available data were not adequate and explicit to run additional analyze the effects of the co-teaching by category or severity of disability. There was also a lack of data to report a breakdown of studies by age, grade level, ethnicity, subject, and socioeconomic status. Thus, the researcher recommended cautiously interpreting the results from the effect size to draw a solid conclusion regarding the relationships between co-teaching and student achievement as well as to generalize the results across the entire population of SWDs and at various grade levels.

Another review of the literature from 1997–2007 focused on parents' attitudes about the effectiveness of inclusive education for their children with disabilities; only 10 studies indicated the children made acceptable progress (de Boer, Pijl, & Minnaert, 2011). However, the report concerning these studies did not provide specific evidence regarding the co-teaching practices used or which grade levels were involved. Magiera and Zigmond (2005) examined the impact of co-teaching on the academic attainment of

SWDs at the middle school level. They found no significant effects on student learning in co-taught environments. They stated the collected data were insufficient to show the effectiveness of co-teaching on student learning. Additionally, they reported the SWDs did not receive the required attention from the GETs due to their dependency on the SETs to deliver instruction to them. On the other hand, Fontana (2005) conducted a study to examine the effectiveness of co-teaching on the achievement of students who were identified with SLDs at the eighth-grade level. The results showed that for students with SLDs who were educated in co-taught classrooms, their average scores were significantly higher than the average scores of their peers with SLDs who were not included in co-taught classrooms. Solis et al. (2012) concluded the most promising interpretation of the data supporting the effectiveness of co-teaching was it was associated with gradual progress when the co-teaching was implemented appropriately. Tremblay (2013) conducted a comparative analysis targeting SWDs in co-taught inclusive classrooms and solo teaching in a self-contained classroom. The goal of the study was to measure the effects of these two models on student outcomes in three academic areas—reading, writing, and math—as well as attendance for first and second graders. Tremblay found students without disabilities showed higher scores on achievement tests compared with their peers who were identified with disabilities regardless of the type of teaching environment. However, the academic gap between SWDs and their peers without disabilities in co-taught classrooms steadied or reduced in the second year during which these students were educated in the co-taught setting. On the other hand, the achievement gap of the SWDs who received solo teaching in the self-contained classroom continued to

show compared with both their typical peers with and without disabilities in a co-taught classroom.

It was important to point out the difficulty of examining the direct relationship between co-teaching practices and the academic success and achievement of SWDs (Friend, 2016; Murawski & Bernhardt, 2015). Murawski and Swanson (2001) recommended that the results related to the effectiveness of co-teaching and derived from a limited number of quantitative studies should not be generalized. They also recommended conducting experimental research to gain more accurate evidence of the impact of co-teaching on the outcomes of SWDs in general education or LRE. Similar suggestions were found in meta-analysis of the research from 1990 to 2010 on the effectiveness of co-teaching by Solis et al. (2012). The results of this meta-analysis indicated a lack of studies that methodically manipulated the impact of co-teaching on SWDs and their peers who were not identified with disabilities. Friend and Cook (2013) interpreted that the limited amount of manipulated and experimental research investigating the impact of co-teaching on SWDs and generalizing the results based on the effect sizes was due to the difficulties of finding comparable students, teachers, classrooms, and academic content to drive accurate data. Friend and Cook added that researchers struggle to gain access to students who could participate in a study as members of comparison groups in a co-taught inclusive classroom and a solo-taught classroom. Co-teaching models across school districts and states have been inconsistent, which might add another layer of difficulty to controlling external variables such as those related to support from the school district (Ruben et al., 2016; Solis et al., 2012) and the school culture (Woods, 2017), which could influence the study design. Additionally, the

teachers' perceptions and attitudes regarding the effectiveness of co-teaching might be affected by the type and severity of disabilities (Woods, 2017).

Complexity of Studying the Effectiveness and the Discrepancy Between Perceptions and Practices

According to Friend, Cook, Hurley-Chamberlain, and Shamberger (2010), co-teaching is a complex practice that might be implemented inconsistently. Several factors contribute to creating a discrepancy between perceptions and practices regarding meeting the social and academic needs of SWDs in inclusive-co-taught classrooms (Takacs, 2015). This section of the literature review includes some findings that could be deemed possible reasons for the complexity of measuring effectiveness and inconsistency between perceptions and practices.

Attitudes

Discussing GETs' and SETs' dispositions, including their attitudes, could foster a better understanding of the effectiveness of teaching practices in inclusive education (Stooksberry, Schussler, & Bercaw, 2009). Attitude means psychological and systematized readiness based on an individual's experience and his or her responses to all conditions and environments (Allport, 1935). Based on Schutz's (1958) interpersonal theory, attitudes play an essential role in hindering or advancing relationships between co-teachers in inclusive settings. For instance, different attitudes of co-teachers might lead to a disagreement regarding their roles and responsibilities as partners, which harmfully affects students' learning outcomes. Thus, researchers suggested continuing to explore co-teachers' attitudes, perceptions, and experiences to remedy the lack of collaborative teaching to meet students' needs in inclusive classrooms (Nagro & deBettencourt, 2017; Pratt, 2014; Whisnant, 2015).

Teaching Experience

Some research findings showed the type and length of a teacher's teaching experience might contribute to shaping the teacher's perception toward co-teaching (Brownell et al., 2012; Hamdan et al., 2016; Pancsofar & Petroff, 2013; Stefanidis & Strogilos, 2015). Hamdan et al. (2016) found that if teachers had had successful co-teaching experiences due to meeting the needs of their students via the co-teaching model, they tended to demonstrate positive attitudes toward co-teaching. However, Hamdan et al. (2016) claimed the length of the teaching experience did not essentially serve as a mediator for using co-teaching in general education classrooms. Long, Brown, and Nagy-Rado (2007) expressed their concerns regarding the effectiveness of selecting novice teachers to co-teach because they were in the process of recognizing their responsibilities, grasping teaching practices, and developing classroom management skills. More recently, Pancsofar and Petroff (2013) said the more opportunities that teachers had to co-teach, the more positive their perceptions of co-teaching were and vice versa. To create positive co-teaching experiences and to improve learning outcomes in inclusive classrooms, school administrators must encourage co-teachers to reflect on their practices and dispositions and understand the teaching process as a team effort by providing professional and logistical support (Baeten & Simons, 2014).

Professional Development Training

Even though teachers showed positive attitudes toward inclusive education, they still felt anxiety toward using co-teaching due to limited development and training opportunities (Blecker & Boakes, 2010). Shady, Luther, and Richman (2013) argued it was illogical to assume teachers showed favorable outcomes and positive attitudes

toward inclusive instructional practices if they had not been involved in appropriate training. Similarly, Lawrence-Brown and Muschaweck (2004) stated that effective co-teaching that meets the needs of students depends on successful collaborative relationships, and effective collaboration is acquired rather than innate.

Pancsofar and Petroff (2013) examined variables impacting teachers' attitudes regarding co-teaching models by using logistic regression analyses. They found professional development and training on the use of co-teaching models was the highest variable that correlated with teachers' attitudes. The discrepancy between the training of SETs and GETs impacted their relationships and highlighted the need to redesign professional development opportunities that enhanced the partnerships between SETs and GETs (Pancsofar & Petroff, 2013). Additionally, Hamdan et al. (2016) added that generating positive attitudes toward using co-teaching was associated with providing meaningful professional development opportunities. They also highly recommended that administrators at the district and school levels be in charge of creating training that reinforced positive perceptions and collaborative practices to increase the levels of readiness and confidence of both GETs and SETs.

Self-Efficacy and Confidence

Self-efficacy refers to the strengths and beliefs of individuals regarding their abilities (Bandura, 1977). Self-efficacy might eventually impact their teaching success and their ability to meet the needs of SWDs in inclusive settings (Strieker et al., 2013). It was found that co-teachers with positive attitudes tended to have more confidence in their abilities to implement co-teaching (Pancsofar & Petroff, 2013). However, one of the common concerns that teachers expressed was they felt overwhelmed about identifying

how to use and link many adaptations to their instruction methods to meet the different needs of all learners (Dieker & Murawski, 2003; Heward, 2003; Kargin, Güldenoglu, & Sahin, 2010). Morton and Birky (2015) found GETs were often reported as lacking experience with addressing SWDs' needs. Pivik (2010) said SWDs were often omitted from the general curriculum because of the absence of modifying teaching practices.

King-Sears and Bowman-Kruhm (2011) conducted a survey study to explore secondary SETs' beliefs about specializing teaching for students with SLDs in co-taught reading classes. Special education co-teachers in the survey reported difficulty in adapting the general curriculum for these students. They believed that using accommodations and modifications was different than specialized and individualized instruction. On the other hand, teachers reported they struggled with the attitudes and motivation of SWDs (Heward, 2003). Thus, the type and intensity of disability also need to be considered in the context of the discrepancy.

Category and Intensity of Disability

Limited research studies were conducted on the effectiveness of co-teaching considering the categories and intensity of disabilities (Murawski & Swanson, 2001). The nature and severity of a disability represented significant reasons that might influence teachers' beliefs and affect the quality of adapting the general curriculum (Petersen, 2016; Pivik, 2010; Scruggs et al., 2007a). The type and severity of a disability affects a GET's readiness to use differentiation techniques (Petersen, 2016; Pivik, 2010; Soodak, Podell, & Lehman, 1998). For instance, GETs seem to be more confident and willing to educate those with SLDs compared to students with other type of disabilities such as autism spectrum disorders, social and emotional disorders, and physical

disabilities (Pivik, 2010; Praisner, 2003). Some teachers considered the cognitive abilities of SWDs as an obstacle to learning, which would keep them from being included in general education classrooms. For instance, Gal, Schreur, and Engel-Yeger (2010) indicated teachers thought students with SLDs often needed extra time and extensive support, which made their inclusion in the general classrooms complicated. Teachers shared their concerns about behavioral issues associated with SWDs (Hwang & Evans, 2013) because these students might be affected by other students' learning (Gal et al., 2010).

A discrepancy in the literature existed regarding the benefits of co-teaching when considering disabilities. For instance, based on one opinion, including SWDs in the general education classroom could cause them to lose the advantage of receiving individual instruction found in special education classrooms by SETs (Magiera & Zigmond, 2005). Other research findings indicated that based on teachers' perceptions, including SWDs in co-taught classrooms might help them socially but not academically (Austin, 2001; Litvack, Ritchie, & Shore, 2011; Reid, 2010). Heward (2003) explained that the GET might lack knowledge about a type of disability and thus might not be responsive to the student's academic needs. Meanwhile, Dymond, Renzaglia, and Chun (2008) perceived the academic benefit of including SWDs in the general education classroom was this could provide students with an equal opportunity to learn from their mistakes in a natural educational setting (general education classroom). The highlighted research findings confirmed the need to conduct further research on the effectiveness of co-teaching for SWDs by considering the types of disabilities they had (Murawski & Swanson, 2001).

The Ambiguity of Expectations and Disparity of Roles

Social constructivist theory considers the differences in individuals' roles to be an advantage when working as complementary partners (Williams & Burden, 1997).

However, special education and co-teaching practices might be inconsistent and GETs and SETs in the co-taught classroom might have different views (Reid, 2010). Thus, co-teaching practices without attention tended to show isolated roles rather than balanced responsibilities and blended the strengths of the co-teachers within the inclusive classroom (Strogilos & Tragoulia, 2013). The GETs often focused on accountability and scores related to high stakes testing (Dieker & Murawski, 2003). Some GETs reported they performed more tasks in the co-taught classrooms than the SETs (Keefe & Moore, 2004). Pratt (2014) stated the importance of clarifying expectations to help co-teachers change their dispositions by creating balance and compatibility instead of having a discrepancy between their roles.

Interpersonal Differences, Conflicts, and Communication

Interpersonal differences such as personal philosophies, communication styles, and conflict styles can impact the co-teaching relationships and practices (Conderman, 2011; Conderman, Johnston-Rodriguez, & Hartman, 2009). Fluijt et al. (2016) described interpersonal aspects as the most important aspects of co-teaching teams. Interpersonal differences represent pressures that are required to be addressed by the teachers (Conderman et al., 2009; Cramer & Stivers, 2007; Scruggs et al., 2007a). The capacity to face, overcome, and mediate conflicts due to these differences are vital to effective co-teaching (Scruggs et al., 2007a). Co-teachers have different backgrounds and they also

have different levels of capacity to adapt to their collaborative practices (Solis et al., 2012).

Developing a clear plan for purposeful communication is necessary to formulate a proactive approach to avoid conflict, to work efficiently, and to help all students succeed in general education classrooms (Brown, Howerter, & Morgan, 2013). According to Vygotsky (1978), communication is a significant component for purposeful interaction. Style of communication should be considered as an interpersonal difference when building relationships (Conderman, 2011). The style of communication co-teachers agree to commit to use should involve their reflections, opinions, philosophies, and evaluations of students' progress and of their teaching (Brown et al., 2013). During conflict resolution, co-teachers must remember to use suitable communication skills (Conderman, 2011) and reflect on their roles as partners in students' successes (King-Sears et al., 2014; Pratt, 2014).

Administrative Support

Co-teachers face pressure to meet the educational demands of state and federal laws in terms of increasing the accountability of teaching the same standards for all students with a high instructional quality (Pancsofar & Petroff, 2013). General education teachers and SETs need to address the challenge related to building effective partnerships so they can provide equal learning opportunities and ensure high-quality teaching to close the achievement gaps between SWDs and their peers (Hamdan et al., 2016; Strieker et al., 2013). If administrators are unaware of the needs of the co-teachers in terms of providing resources and logistics support, promoting meaningful professional development, and developing flexible scheduling, they cannot make decisions that would help the teaching

staff. Administrative support is needed for co-teachers to be financially (Whisnant, 2015) and logistically (e.g., with scheduling; Ruben et al., 2016; Solis et al., 2012) supported, which could influence their attitudes regarding working together in inclusive classrooms. For instance, some research findings confirmed that teachers received limited administrative support, which affected their capability to use differentiation techniques in inclusive settings (Brendle, Lock, & Piazza, 2017; Dymond et al., 2008; Gal et al., 2010). Lack of training was another challenge for improving co-teaching practices (Brown et al., 2013; Pancsofar & Petroff, 2013; Solis et al., 2012). Shin et al. (2016) concluded administrators might improve or hinder the quality of co-teaching models. The quality of co-teaching could be affected by limiting the number of concurrent co-teaching relationships teachers have during the school year, by increasing teachers' opportunities to recruit and continue co-teaching partnerships, and by increasing the time teachers had for meeting with each other during the day (Pancsofar & Petroff, 2013).

Planning Time

According to Vygotsky (1978), interaction is required for individuals to exchange experiences. Interaction exists in the co-teaching context during meetings and planning. Allocating time for meetings to plan and to reflect on what works (and what does not) is important for effective co-teaching (Bristol, 2015; Solis et al., 2012). However, scheduling was one of the common challenges that co-teachers faced (Solis et al., 2012). The inability to effectively co-plan resulted in uncoordinated teaching and a lack of differentiation techniques needed to meet the diverse needs in inclusive co-taught classrooms (Hwang & Evans, 2013; Murawski, 2012). On the other hand, nonsystematic scheduling and random meetings were also a barrier for co-teachers (Hamdan et al.,

2016). From co-teachers' perceptions, time spent in their meetings was spent discussing how SETs would teach the SWDs and how GETs would work with the students without disabilities; thus, they typically did not invest sufficient meeting time to design shared practices (Strogilos et al., 2016).

Co-Teaching at the Secondary Level

Rice and Zigmond (2000) described the use of co-teaching to support SWDs in secondary settings as a complicated, critical, and challenging approach. In other studies, co-teaching at the secondary level presented more obstacles compared to the elementary level and required more effort and time to be accepted by teachers (Jackson, Ryndak, & Billingsley, 2000; Moore & Keefe, 2001). Secondary schools, especially high schools, face the pressure of bridging the academic gap between SWDs and students without disabilities (Mastropieri et al., 2006); they adhere to timelines proposed by the district regarding guidelines of high-stakes testing (Mastropieri et al., 2005).

Moore and Keefe (2001) conducted focus groups with GETs and SETs in elementary and high schools. Both groups reported concerns related to finding sufficient planning time, receiving necessary administrative support, lack of resources, quality of professional development, and teacher readiness. However, high school co-teachers faced additional obstacles because of larger class sizes, continued student population growth, larger school size, and ambiguous teaching responsibilities compared to elementary teachers. In another study conducted by Keefe and Moore (2004), they focused on the challenges of secondary co-teachers by including the voices of GETs and SETs at a large high school in the United States. The researchers used and analyzed semi-structured interviews to identify common themes. These themes were centered on

issues related to the nature of collaboration, roles and responsibilities, and outcomes. The GETs and SETs described co-teaching as a useful approach to improving student outcomes. The main advantage of including SWDs in co-taught classrooms was eliminating the stigma of being educated in segregated educational settings. In contrast, the main benefit for students without disabilities was receiving individualized support from both co-teachers. The GETs did not indicate any negative outcomes for students with or without disabilities. However, SETs reported concerns about the effectiveness of co-teaching for SWDs as individuals because they believed some SWDs required intensive assistance in general education settings.

Takacs (2015) replicated the Keefe and Moore's (2004) study by using interviews with SETs and administrators and observing 9th-, 10th-, and 11th-grade co-taught classrooms to examine the co-teaching approach. The study's findings included different co-teaching practices and experiences and many considerations that might influence co-teaching. Primary considerations involved the significance of the partnership between GETs and SETs, a common teaching philosophy, similar teaching practices, and school administrative support.

The reviewed literature reflected the common theme that no single approach to creating inclusive co-taught classrooms at the secondary level existed because secondary schools and classrooms represented rather complicated systems (Friend et al., 2010; Keefe & Moore, 2004; Rice & Zigmond, 2000; Takacs, 2015). However, teachers' experiences should guide scholars and secondary schools that seek to meet all students' needs through co-teaching. Based on recommendations from the reviewed studies, more

research is necessary to understand the experiences of high school students and teachers in inclusive co-taught classrooms over time (Keefe & Moore, 2004; Takacs, 2015).

Research Gap

While some research evidence exists regarding co-teaching practices, perceptions, and attitudes, more information is needed to determine what works and what needs to be improved to meet the needs of SWDs in inclusive classrooms (Friend & Cook, 2013; Mastropieri et al., 2005; Sileo & Van Garderen, 2010). Extensive data have been accumulated at elementary schools regarding the effectiveness of co-teaching (Carson, 2011; Cremin et al., 2005) but the effectiveness of using a co-teaching on a daily basis had little research support regarding the perceptions of secondary students with SLDs, their peers without disabilities, and GETs and SETs as a co-teaching team.

Cronis and Ellis (2000) described inclusive teaching practices as one of the issues and trends in the field of special education: “Research has not been practitioner-oriented” (p. 642). Rice and Zigmond (2000) and Harbort et al. (2007) explained that future research should, therefore, take place in inclusive classrooms. They also suggested focusing on the efficacy of co-teaching; researchers should also consider co-teaching practices at the secondary level. In terms of data collection, King-Sears et al. (2014) agreed with Rice and Zigmond and Harbort; they suggested using more observational investigations to know what each co-teacher was doing in the actual learning context could be captured to support the needs of SWDs and their peers without disabilities. Moreover, Ford (2013) recommended continuing seeking co-teaching practices by exploring the perceptions of using co-teaching in secondary schools. Investigating perceptions of co-teaching in secondary classrooms would help to clarify which methods

were likely to succeed (De Vroey, Struyf, & Petry, 2016; Ford, 2013; Keefe & Moore, 2004; King-Sears et al., 2018; Rice & Zigmond, 2000; Takacs, 2015). Additionally, school administrators and policymakers at the district level could use the input of secondary co-teachers and students about co-teaching to improve the relevant practices when planning inclusive classrooms (Moore & Keefe, 2001; Scruggs & Mastropieri, 1996; Takacs, 2015).

Based on the highlighted research recommendations, the goal of the current case study was to add to the existing body of knowledge on co-teaching at the secondary level. More specifically, the study addressed the effectiveness of co-teaching practices to support students with SLDs in secondary inclusive classrooms based on an in-depth investigation of the perceptions of co-teachers and students. The methodology and the exploratory nature of the study were what distinguished this study from other studies in the literature. The study was conducted in a high school located in one Colorado school district using a combination of data derived from observations, field notes, and artifacts to capture the actual practices occurring in co-taught classrooms. Then, individual interviews were conducted with SETs, GETs, students with SLDs., and students without disabilities. The following chapter includes detailed information about research methodology.

CHAPTER III

METHODOLOGY

As evidenced by the literature, co-teaching and supporting secondary students with specific learning disabilities (SLDs) in inclusive classrooms are complex practices affected by tangible and intangible factors. Moreover, the effectiveness of co-teaching to support secondary students with SLDs, who represent the highest population of students with disabilities (SWDs) in inclusive settings, was described by a limited number of empirical studies. Additionally, the existing studies did not consider the actual co-teaching practices and individual perceptions in natural settings. Thus, the purpose of this case study was to understand the perceptions of secondary teachers and students about the effectiveness of co-teaching to support students with SLDs after conducting classroom observations. An exploratory qualitative case study was selected as a methodological design. This design provided the needed flexibility to address the purpose of the study. The case study took place in a high school located in Colorado and the following research questions were used to guide this study:

- Q1 How do co-teachers (SETs and GETs) perceive their co-teaching experience when they have students with SLDs in their classrooms?
- Q2 How do secondary students with SLDs perceive co-teaching practices in inclusive classrooms?
- Q3 How do secondary students who are nonidentified with disabilities perceive co-teaching practices in inclusive classrooms?

In this research, a social constructivist approach was used as a theoretical framework. The following sections present the theoretical framework, study design, methods, ethical considerations, recruitment process, data collection procedures, and analysis steps.

Theoretical Framework

A theoretical framework plays a crucial role in guiding the research process (Creswell, 2014). Relevant to the current inquiry, a social constructivist approach was used as a theoretical framework and a critical lens to address the research purpose. This approach helped me study a targeted phenomenon based on understanding the nature of human knowledge and perceptions (Crotty, 1998). “A social constructivist holds assumptions that individuals seek understanding of the world in which they live and work” (Creswell, 2009, p. 8). Therefore, the aim of this case study was dependent on the perceptions of co-teachers and students about the effectiveness of co-teaching practices to support secondary students with SLDs in inclusive classrooms.

Specifically, the current study followed the social constructivist approach that emphasizes the opinions, beliefs, ideas, feelings, and assumptions of the research participants about the research phenomenon (Charmaz, 2006; Creswell, 2014). Thus, this approach encouraged the participants to reflect on their own experiences freely and then their interpretations of the phenomenon could reveal a significant amount of information that provides new insight into the existing knowledge (Creswell, 2014). The constructivist approach also informed my role as a researcher in gathering, observing, coding, interpreting, and drawing conclusions from data sets based on multiple views. This approach emphasized that all individual perspectives were significant for

constructing meanings of the targeted phenomenon (Creswell, 2014). Therefore, the participants interpreted their ideas and held different views and denotations of the same phenomenon based on their experiences (Crotty, 1998). In other words, the participants in this case study developed subjective meanings of their experiences regarding co-teaching practices based on their responses to the interview questions after conducting the classroom observations. The different and several meanings allow the reader to understand the complexity of the targeted phenomena rather than narrowing it into a few categories.

Research Design

As mentioned previously, relevant research findings indicated the difficulty of conducting quantitative explanatory research to measure the effectiveness of co-teaching to support students with SLDs in inclusive settings (Friend, 2016; Garmon, 2005; Strogilos et al., 2016). Therefore, an exploratory, qualitative case study was used to set the stage for conducting further research by focusing on exploring the perceptions regarding the effectiveness of co-teaching practices to support students with SLDs in a high school. In this section, an overview and justification for the selected research design are provided.

The key purpose of qualitative studies is to understand individuals' perspectives and meanings of their practices (Merriam, 2014). It is essential to view qualitative research as a way to explore real-world phenomena in authentic settings (Patton, 2002). Case study, within the scope of qualitative research, is an investigation of a complicated experience in a bounded system such as individuals separately, in a small group, or in structural events, within a real-life context, to have a deep understanding of the targeted

phenomenon (Creswell, 2014; Yin, 2014). Relevant to this inquiry, the school was the case. Yin (2014) described the case study as a powerful approach that could ideally explore the facts of a case objectively while taking advantage of continued interactions among design, data collection, and analysis during the study. Based on this rationale, the case study design was most effective in addressing the purpose of this study. The case study helped me have a better understanding of the perceptions and practices regarding the effectiveness of using co-teaching to support students with SLDs in inclusive classrooms in a high school.

A case study represents a research approach to have an in-depth investigation of an event in a bounded system (Creswell, 2014). Using a qualitative case study required multiple data collections to develop a comprehensive picture of the targeted phenomena (Creswell, 2014). Thus, several sources such as interviews, observations, field notes, and artifacts should be included in a case study design (Creswell, 2014; Merriam, 2014; Patton, 2002). The following section presents the research methods used to build the case in detail.

Research Methods

Case study is an investigation of complex experiences in a bounded system to have a deep understanding of the targeted phenomenon (Creswell, 2014; Yin, 2014). This case study was conducted in a public high school located in a school district in the Rocky Mountain area of Colorado. Yin (2014) indicated that researchers using case studies should use different data resources to reach rich conclusions based on information from all participants who shared similar experiences in a bounded system within a real-life context. Thus, this study involved co-teachers and students as each had experienced

the phenomenon of co-teaching in inclusive settings. Each co-teaching team included a SET and a GET who had experienced the phenomenon of being partners for at least one year in co-taught classrooms at the secondary level. Participant students included students with SLDs and their peers who were nonidentified with disabilities. Data collection methods included observations, field notes, and artifacts (e.g., samples of student work and materials used and developed by the co-teachers). Additionally, face-to-face, semi-structured, individual interviews with co-teachers and students were conducted. Once data were collected, they were analyzed using coding and thematic derivation for results.

Setting

One of the key considerations of a case study is the context or the setting where the research would take place (Creswell, 2014). This case study was conducted in a public high school. The school was located in one of the school districts in the Rocky Mountain area of Colorado. Purposeful sampling was used to select the school to investigate the perceptions of co-teachers and students regarding the effectiveness of co-teaching practices based on their experiences. The school was selected because it met the following criteria:

- The school was a secondary school (a school targeting students in grades 6–8 or a school targeting students in grades 9–12).
- The school used a co-teaching approach as a teaching service delivery model in which SETs and GETs shared responsibilities for all the students in inclusive classrooms.
- The school used co-teaching as dictated by the school district.

- The school had used the co-teaching for at least a year.
- The school location was within a convenient traveling distance for me (the distance between the school and my home did not exceed two miles) to complete the research procedures.

The selected school was considered one of the oldest public high schools located in the Rocky Mountain area of Colorado. The school served students in grades 9–12. In the 2019–2020 school year, the number of enrolled students reached 1,528. The demographics of the enrolled students reflected the diversity of the school. There were approximately 50% female students and 50% male students. Of the student population, 68% were Hispanic, 23.3% were White, 4.8% were Black, and 2% were Asian. Approximately 33% of the students received reduced or free lunch. Twenty-six percent of the population were English language learners, 12% of the students were SWDs, and 10 % of these students were classified with SLDs and had IEPs. Most of the students with SLDs were included in general education classrooms for at least 80% to 90% of their school day.

The school offered core academic classes, advanced enrichment classes, and additional classes. Core academic courses were mandatory for all students and included mathematics, English language arts, social studies, and science. Advanced enrichment classes were not required for all students. Additional courses were provided for all students and included art, music, health, physical education, technology, college, and career readiness.

Participants

In this study, purposeful sampling was used as participants could provide rich and holistic information that gave insight and an in-depth understanding about the phenomenon of the study (Patton, 2002). Participants in this study included groups of current (2019–2020) high school co-teachers, students with SLDs, and students who were nonidentified with disabilities. There were 15 participants. There were four co-teaching teams and eight students. Each co-teaching team consisted of a SET and a GET; there were three SETs and four GETs. There were four students with SLDs and four students were nonidentified with disabilities.

According to Gentles, Charles, Ploeg, and McKibbin (2015), the overall goal of sampling in qualitative studies is to collect information that helps to understand the complexity, depth, variation, or context surrounding a phenomenon. In some qualitative research, such as the case study, working with a small sample from the same context allows one to have a comprehensive and in-depth understanding of the studied phenomena (Miles & Huberman, 1994). Yin (2011) stated that because of the nature of the case study method, common standards about sample size were irrelevant. The most crucial consideration was the attempt to recruit a representative sample of the targeted population to draw a holistic picture of the problem.

Purposive sampling was selected to recruit participants rather than random sampling because the study findings of this case study could not be generalized statistically across the entire population (Yin, 2011), and co-teaching methods could vary across schools and school districts (Garmon, 2005; Strogilos et al., 2016). Additionally, purposive sampling provided a useful technique for exploring anthropological situations

where the meaning of a phenomenon could be constructed based on multiple perspectives (Patton, 2002). There were advantages of using purposive criteria in case studies. For instance, purposive sampling ensured that participants had experienced the central phenomenon of the study, in this case co-teaching (Creswell, 2014), which allowed me to examine instances that reflected rich information learned from participants about the central phenomenon of the study (Merriam, 2014; Patton, 2002). Yin (2011) recommended that researchers be careful when using purposive sampling to collect the most relevant and rich data.

Participant selection criteria. The process of including co-teachers and students was done carefully by using purposeful sampling and considering specific criteria. Purposeful sampling required selecting individuals who were experienced with the research phenomenon to collect valuable information (Patton, 2002). However, it was important that the targeted individuals were available and willing to participate in the study in order to communicate their experiences and opinions about the phenomenon in a reflective manner that allowed rich and meaningful data (Merriam, 2014). Therefore, individuals who met the criteria were given the right to participate as well as their right to opt out of this study. The following criteria were used to recruit a representative sample to have a holistic picture of the research phenomenon.

Co-teachers. Each co-teaching team consisted of a SET and a GET. The SETs had to be certified to teach SWDs while the GETs needed to be certified in a specific academic subject. Each co-teacher had at least a year of co-teaching experience and at least a year of working with the same partner in the selected school.

Students. Both groups of students (students with SLDs and students who were nonidentified with disabilities) must have been involved in co-taught classrooms at least from the beginning of the school year (2019-2020). Students with SLDs had to have IEPs and be educated with their peers in general classrooms at least 80% of the school day.

Demographic profile of participants. According to Creswell (2014), purposeful sampling might consist of individuals who were exposed to the same phenomenon in the same context but had nonhomogeneous attributes. Therefore, demographic information was collected from participants as part of the interview questions. The co-teachers were asked about their job titles based on the type of teaching certification, the content area of co-teaching, gender, level of education, and attendance of a training about co-teaching. They were also asked about the number of years of teaching experience, co-teaching experience, and co-teaching experience with the same partner. The students were asked about their grade level, age, gender, and the years spent in co-taught classrooms. Collecting the demographic characteristics of participants in this study served two purposes: (a) determining if the criteria of selection were met to have a representative sample and (b) gaining a greater insight about the participants' perceptions about the effectiveness of co-teaching practices in their school when considering their individual backgrounds. The characteristics of the participants are presented in Tables 1, 2, and 3. Pseudonyms were used to protect data obtained from both students and teachers.

Table 1 shows detailed demographic information of the participant co-teachers. The total number of the co-teachers was seven (three SETs and four GETs). Each SET and GET formed a co-teaching team. The total number of the teams was four and each

team co-taught a specific academic content area (English language arts, mathematics, social studies, and science). The presented information in the table reflects varied characteristics of the co-teachers who participated in this study.

Table 1

Demographic Profile of Co-Teachers

Team	Participants	Gender	Job	Education Level	Attending Training about Co-teaching	# Years of Experience		
						Teaching	Co-teaching	Teaching with the Same Partner
Language English Arts	Melissa	Female	GET	Bachelor's Degree (<i>English Art</i>) Master' Degree (<i>Nonprofit Administration</i>)	Yes	7	5	1
	Lillian	Female	STE	Bachelor's Degree (<i>Special Education</i>)	Yes	3	3	1
Math	Ronald	Male	GET	Bachelor's Degree (<i>Secondary Education, Math</i>)	Yes	5	2	2
	David	Male	SET	Bachelor's Degree (<i>Special Education</i>) Master' Degree (<i>Teaching Math</i>)	Yes	7	7	2

Table 1, continued

Team	Participants	Gender	Job	Education Level	Attending Training about Co-teaching	Years of Experience		
						Teaching	Co-teaching	Teaching with the Same Partner
Social Studies	Smith	Male	GET	Bachelor's Degree (<i>Social Studies</i>) Master' Degree (<i>Administration</i>)	No	20	3	3
	Lillian	Female	SET	Bachelor's Degree (<i>Special Education</i>)	Yes	3	3	3
	Nora	Female	GET	Bachelor's Degree (<i>Science</i>) Master' Degree (<i>Secondary Education</i>)	No	1	1	1
Science	Stacey	Female	SET	Bachelor's Degree (<i>Special Education</i>) Master' Degree (<i>Applied Behavioral Analysis</i>)	No	2	1	1

Table 2 shows the demographic information of the four participant students with SLDs. Two of the students were females and two of them were males. One of the students identified himself as “freshman,” which meant he was in ninth grade. The other students identified themselves as “seniors,” which meant they were in the 10th grade or above. The students’ ages ranged from 14- to 17-years-old. The table also shows the number of years each student was educated in co-taught classrooms.

Table 2

Demographic Information of Students with Specific Learning Disabilities

Participants	Grade Level	Age	Gender	# Years of Being Included in Co-taught Classrooms	Observed Class
Tom	9	14	Male	< 1	English Language Arts
Amy	10	15	Female	2	Math
Sara	12	17	Female	2	Social Studies
Mathew	11	16	Male	2	Science

Table 3 shows demographic information from the four participant students who were nonidentified with disabilities—two females and two males. One of the students identified herself as “freshmen” because she was in the ninth grade. In contrast, the other students identified themselves as “seniors” because they were in the 10th grade or above. The students’ ages ranged from 14- to 17-years-old. The students showed variation regarding the number of years of being educated in co-taught classrooms.

Table 3

Demographic Information of Students Who Were Nonidentified with Disabilities

Participants	Grade Level	Age	Gender	Years of Being Included in Co-taught Classrooms	Observed Class
Sofia	9	14	Female	< 1	English Language Arts
Jones	10	15	Male	2	Math
Tomas	12	17	Male	2	Social Studies
Anna	11	16	Female	3	Science

Ethical Considerations and the Recruitment Process

Prior to beginning this research, I asked for and received permission from the school principal (see Appendix A), the school district (see Appendix B), and the Institutional Review Board (IRB; see Appendix C) to conduct this study. I made initial contact with the school principal via e-mail (see Appendix D); the e-mail included an introduction from me and an explanation of the research study, a notice of the IRB

request, and consent forms for participants. After the IRB permission was received as well as the permission from the school district, I sent another email to request a face-to-face meeting to meet with the school principal and potential participants of the co-teacher teams (see Appendix E). The purpose of the meeting was to introduce myself and to clarify the purpose of the study. During the meeting, I provided consent forms to the co-teachers who wished to participate in the study. Additionally, I asked these co-teachers to provide consent and assent forms to the parents/guardians of minor students in their classes. I collected the assent forms from the students in person after parental permission was received. Then, the co-teachers and I identified dates, times, and locations for the classroom observations and interviews. I worked with the teachers to find the most convenient and uninterrupted time for them and the students to complete their interviews. I reminded the co-teachers of the observations and the interviews via two e-mails sent one week before and one day before the meetings. The reminder e-mails included the date, time, place of the meeting, and the goal of the study. Examples of the reminder emails are provided in Appendix F.

Consent forms. Before the study began, I asked adult participants to sign a consent form that described the research, outlined their participation, and stated the risks and benefits of participation. Consent forms were designed for two audiences: (a) co-teachers (see Appendix G) and (b) parents of students who were under 18 (see Appendix H). Assent forms were used with students who were under 18 years old (see Appendix I). Participation was voluntary and students and co-teachers could decide not to participate and withdraw at any time. All decisions were respected and did not result in loss of benefits to which participants were otherwise entitled. Upon reading the consent form

and having an opportunity to ask questions, participants signed if they wanted to participate in this research. A copy of the consent form was given to each participant for future reference.

Potential benefits to the participants. Upon completion the study, each participant of students and teachers received a Starbucks gift card worth \$10. The cards were offered to the students and co-teachers to motivate and encourage them to participate. The indirect benefit was considered in terms of contributing to the field of inclusive education, which might provide benefit to all students including students with SLDs and the co-teaching teams in developing their teaching practices. This study provided an opportunity for the co-teaching participants to reflect on themselves, their practices, and their perceptions regarding supporting students in general classrooms by using a co-teaching approach. In addition, the information provided by the student and co-teacher participants might be used to help improve practices related to the preparation of teacher programs to meet the needs of SWDs and their peers without disabilities in inclusive classrooms.

Data Collection Sources

In qualitative research, data are usually collected from several sources including interviews, observations, and document analyses (Merriam, 2014). In a case study research, the use of multiple data gathering methods for the process of data validation is recommended (Campbell & Fiske, 1959; Creswell, 2014; Merriam, 2014). Bias might be reduced by triangulation of the data (Yin, 2011). In this study, the data were drawn from classroom observations, artifact analyses, individual, face-to-face, semi-structured interviews, and field notes.

Observations. The first data collection source was observations. The collected data from the observations provided a different perspective on actual participant practices and interactions that other qualitative measures could not capture. Observations were a significant method of data collection in qualitative research because through observations I could document the behaviors as they occurred (Creswell, 2014). Additionally, observations were used besides the interviews and artifacts to triangulate and substantiate the emerging findings (Merriam, 2014).

The main goal of the observations was to describe the environment, interactions, and teaching practices. Elements related to the co-teaching models, teaching instructions, support provided for the students, interactions between students, between the students and co-teachers, and differentiation techniques were documented. These elements were selected based on the relevant literature reviewed in Chapter II. Sketches also were used to capture the arrangement of each classroom. Moreover, basic information included the date of data collection, time, co-teaching team, grade level, subject (content knowledge), duration, and setting were recorded for each observation. Although these items seemed basic, they provided better insight into the details of the targeted phenomena (Phillippi & Lauderdale, 2018).

The observations were conducted in four different co-taught classes—one observation per class. The observations were gathered from English language arts, mathematics, social studies, and science classes across different grade levels. Each observation encompassed one class period. Class periods in the local school district ranged from 50 minutes to 90 minutes. For all the observations, I wrote description content and field notes (see Appendix J for observation forms).

A pilot observation form was an important step for me because it served two purposes: (a) gaining experience in collecting data, and (b) knowing which aspects of the form needed to be developed with considering the flexibility in making changes as needed by adding or deleting elements. After the permission forms were obtained from the IRB, school district, and school, I conducted one observation in one of the co-taught classrooms at the selected school. The observation lasted 90 minutes. It should be noted the collected data from this observation were excluded from the analysis process of the study.

The pilot observation form helped me reflect on my way of writing the notes and addressing the possible disadvantages of using descriptive observations before conducting the whole study. I learned that descriptive observation assumes I do not know anything about the research phenomenon and I need to observe everything and anything. Consequently, using the descriptive observation might lead to collecting details not relevant to the research purposes or omitting other necessary aspects of the research purposes (Creswell, 2014). Therefore, I realized the importance of adding the sketch of the classroom environment and starting with open notes first and then focusing on specific elements. Once these elements were captured, returning to the overall idea was needed. I learned that when the observation was completed, I should mentally replay the documented scenes and I should immediately write my field notes, reflections, and questions that need to be asked during the individual interviews.

Artifacts. Artifacts were used as an additional source to support investigating the perceptions about co-teaching practices. The co-teachers were asked to provide artifacts to confirm the conclusions of the study through triangulation (Merriam, 2014). The

artifacts in this study included any supplemental materials used during the co-taught lessons from each observed classroom. They also included samples of student work and materials provided by the co-teachers such as worksheets, guide notes, homework assignments, and lesson activities. These artifacts were gathered pre- and post-observing the co-taught classes by asking the co-teaching teams for copies. Artifact analysis is a qualitative research procedure that allows the researcher to support the participants' voices and give an additional dimension to understand complicated phenomena (Bowen, 2009). Therefore, the collected artifacts from the observed classes were used for three reasons: (a) to link the recorded observations to the actual practices, (b) to support the responses of the participants to the interview questions, and (c) to determine similarities and differences in the emerging themes.

Interviews. Interviews are the most common form of data collection in qualitative studies (Merriam, 2014). After each classroom observation, in-depth, one-on-one, semi-structured interviews were conducted with the co-teachers, students with SLDs, and students who were nonidentified with disabilities from the selected classrooms. There were two different sets of interview questions: one for co-teachers and one for students. Each interview included demographic questions and conversational and structured, open-ended questions that aligned with the research purpose. Open-ended questions provided rich and complex information about understanding of the qualitative conclusions (Harland & Holey, 2011). The interview protocols can be found in Appendices K and L.

According to Yin (2011), interviews in exploratory research should be conducted in actual settings; therefore, the interviews to collect data of this study took place at the

participants' school. Creswell (2014) recommended that interviews be scheduled in "quiet location[s] free from distractions" (p. 133). Some participants might hesitate to share their opinions so selecting a setting conducive to open discussion was necessary (Creswell, 2014). Therefore, each participant identified the location to be used for the interview. Additionally, the interviews were scheduled based on the availability and willingness of the participants.

Fifteen interviews were conducted in this study. Interviewees were three SETs, four GETs, four students with SLDs, and four students who were not identified with disabilities. Each interview was last approximately an hour for co-teachers and 20 minutes for students. According to Patton (2002), the interviewer must demonstrate an interest in what the participants say and believe their experiences and perceptions have value. Thus, follow-up questions, props, and clarifications were used with the interviewees as needed. Additionally, field notes about interviews were used. I recorded any emotions and overarching nonverbal behaviors. These behaviors could be added to develop holistic documentation that could be used later during data analysis (Berger, 2015).

All participants were asked for permission to record their responses, which were transcribed afterward. The participants were given their transcribed interviews to read to confirm their answers were accurate. Recordings will be destroyed after analyses of transcripts have been completed. Researchers are recommended to immediately spend time focusing on reflection and writing field notes after transcribed interviews (Patton, 2002). Therefore, I reviewed each participant's responses to the interview individually as a whole, noting relevant behaviors not captured by prior observations. Critical reflection

after each interview helps the researchers to evaluate their performance, biases, and feelings (Watt, 2007). The process of reflecting on the transcribed interviews encourages the researcher to improve the interview technique improvement (Watt, 2007). The participants were asked if they wished to receive a copy of the final research report. The perceptions regarding effective co-teaching practices were explored based on a great deal of information received from multiple perspectives of people involved in co-teaching experiences.

Field notes. Field notes are written notes by the researcher and include rich descriptive and reflective comments such as personal thoughts, ideas, and queries during or after conducting observations and interviews (Phillippi & Lauderdale, 2018). According to Phillippi and Lauderdale (2018), “Field notes are widely recommended in qualitative research as a means of documenting needed contextual information” (p. 381). Additionally, Creswell (2014) stated field notes enhance qualitative research by providing rich context and substantive descriptions for analysis to establish transferability. Tsai et al. (2016) indicated field notes serve various functions. For instance, field notes help researchers carefully observe the environment, document sights, behaviors, reactions, describe interactions, and write reflections regarding the data collected through observations and interviews. Merriam (2014) described a well-framed approach to gathering field notes is they are written at the same time of the observation or immediately after the observation.

In this study, the field notes of the classrooms were recorded immediately after completing each observation. On the other hand, the field notes related to the interviews were written while conducting each interview. Reflection on the narrative field notes led

to follow-up questions be written that would be asked during the interviews. Appendix J provides the form used to write the field notes related to the observations. During the individual interviews, field notes were used to capture participants' reactions and then to reflection on their responses. The reflection step in taking field notes served as a scaffold to support customized details based on researchers' needs (Phillippi & Lauderdale, 2018).

Data Collection Procedures

When conducting a case study, ethical constrictions, careful planning, and clarity of procedures are critical points in more rigorous and systematic research applications (Merriam, 2014; Yin, 2014). The data collection procedures began within obtaining the written permission from the school principal, the school district approval, and IRB approval from the university. After receiving the required permission forms, the recruitment process of the participants began. The consents and assent forms were then signed and collected before collecting the data. Schedules of the observations and interviews were used within the identified timeframe to avoid scheduling conflicts. Table 4 shows the overall timeline of data collection procedures.

Table 4

Timeline of Data Collection Process

Event	Date
Written Permission from School Principal	August 28, 2019
District Approval	September 5, 2019
IRB Approval Letter	September 19, 2019
Initial meeting with co-teachers	September 24, 2019
Collecting the Consent and Assent Forms	October 2-November 2, 2019
Collecting Data	October 2-January 20, 2019

A sequential design of data collection procedures was used via three main phases (see Figure 1). The first phase consisted of conducting observations and collected artifacts. Each observation encompassed one class period. Immediately and after each observation, I spent about an hour to write relevant field notes, reflections, and questions I would ask in the follow-up interviews for co-teachers and students. The second phase consisted of individual interviews with co-teachers. The third phase was conducting the individual interviews with the students with SLDs and students who are nonidentified with disabilities. The interviews were audiotaped and professionally transcribed.

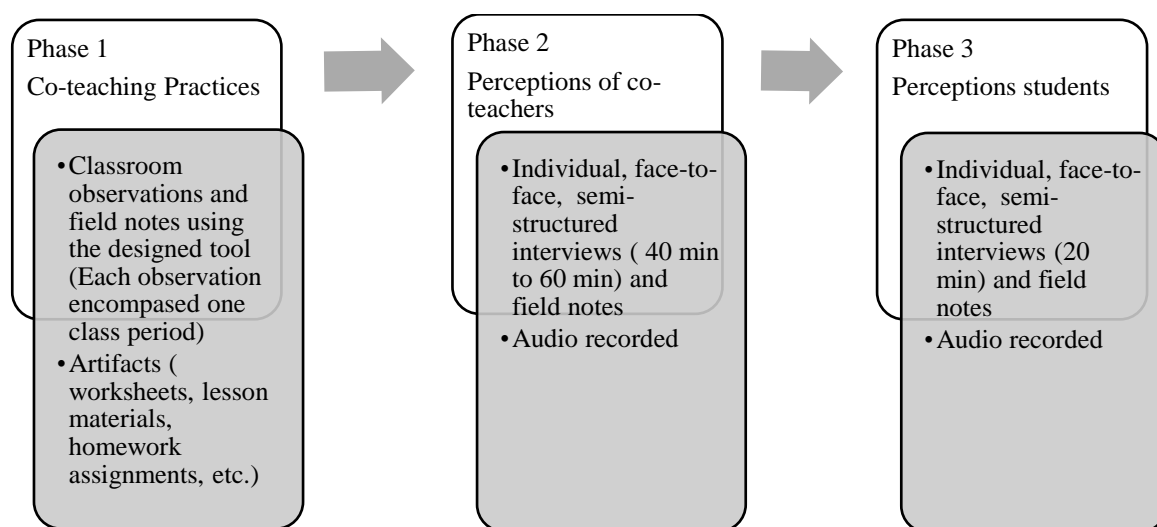


Figure 1. Data collection phases.

Data Analysis and Coding

The unique characteristics of the case study require the selection of appropriate analysis approaches (Merriam, 2014; & Yin, 2011). The main goal of the case study is to understand the case itself and to communicate this understanding by using an analysis process that depends on data resulting from observations, interviews, and artifacts

(Merriam, 2014). Therefore, a thematic analysis approach was used because it fit with the nature of this study and the multiple data sources used. According to Creswell (2014), the thematic approach helps one analyze text that might come from a variety of sources including transcripts from interviews and other written forms. I analyzed my classroom observations, artifact reviews, interviews, and field notes. Thematic analysis often involves reformulating information by individuals in different contexts based on their different experiences.

Yin (2014) recommended using software programs in qualitative research to assist with the organization of a large amount of data during analysis process. Therefore, NVivo 12 for Windows 2018 was used to organize the data of the current study. This software was used to insert data from electronic documents containing transcribed interviews, typed observations, field notes, and artifacts. NVivo also was used to review the audio files (the recorded interviews) while reading the typed transcriptions. Hence, all the data were saved in one folder, which could be accessed by several devices using a password. It should be noted that this software did not replace my role as a researcher so I coded the uploaded data following Yin's steps.

Yin's (2011) model was followed to identify themes across the data. Yin's model consisted of five basic steps: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding (see Figure 2). The process began by compiling the data derived from the different sources into an electronic organized file. Next, the data were disassembled, i.e., it was broken into pieces and then coded or labeled using NVivo. In the reassembling step, the data were categorized into themes based on the disassembly step. Following reassembly, emerging themes were interpreted and used to generate

tables. As a final step, conclusions were made based on the findings of the multiple data methods for each research question.

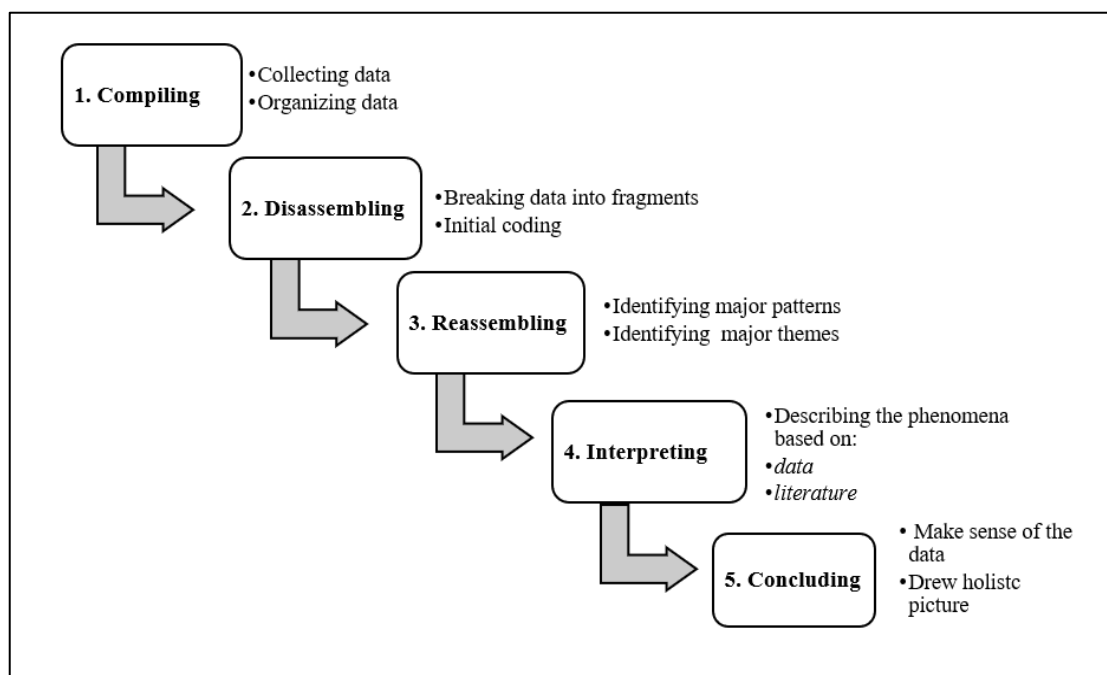


Figure 2. Process of data analysis and coding based on Yin's (2011) model.

Compiling

Compilation was the first step of Yin's (2011) model. In this study, compilation occurred by completing the three phases of data collection in Figure 2. The collected data were organized in electronic files to import them to NVivo software. Thus, observations and field notes were typed using a Word document. A hard copy of the artifacts was converted to electronic files by scanning them and saving them in a Portable Document Format. All the interviews were transcribed professionally and saved in Word format. Then, an electronic folder was created to combine the following files: classroom observations file, artifacts file, and transcribed interview files classified by groups

(students with SLDs, students who were nonidentified with disabilities, and co-teachers). The folder was saved on One Drive. All the files in the folder were protected with a password. Additionally, personal information was removed and the participants were assigned pseudonyms before uploading the files to the NVivo software. Thus, the data were accessible to me in multiple ways.

Disassembling

After compiling the data, they were disassembled into fragments by using initial coding. I recorded memos in NVivo to identify preliminary thoughts that emerged later during the next analysis steps. During the initial coding phase, I used descriptive coding, which allowed me to categorize each chunk of data based on a single element or term. I identified descriptive elements and key words and phrases that were used in the step.

Reassembling

Following the disassembling, the reassembly step was taken to increase the level of coding by focusing on a higher level of interpretation of the concepts presented in the data (Yin, 2011). Thus, the data were reassembled by identifying major themes and patterns. As recommended by Creswell (2014), coding should be used to generate themes. Similarities and differences in data were also determined to highlight the negative cases. NVivo was used to create matrices, nodes, and parent nodes to display the patterns in the data and categorize themes. Additionally, colors were used to organize the data and highlight the relevant quotes. These techniques helped with the interpretation step.

Interpretation

The interpretation step means describing the phenomena based on the data collected (Yin, 2011). Creswell (2014) recommended using the input of participants based on their different experiences by using narrative and descriptive data. The data of this study were interpreted by capturing themes that addressed the research purpose and questions. Main and secondary themes were reviewed to obtain a holistic picture of the case by considering the similarities and differences between patterns. Then, the literature within the existing body of knowledge, including relevant studies on co-teaching and supporting students with SLDs, was used to interpret the themes and the subthemes.

Concluding

Conclusion is the step when researchers make sense of the data by drawing a holistic picture of the case (Yin, 2011). Based on the interpreted data, conclusions were made for each research question. The conclusions of the study highlighted thematic similarities and differences of the case study and sources. New ideas were discovered based on conclusions drawn from the collective studies. The descriptive observations, collected artifacts, and transcribed interviews were connected to the three research questions. The emerged themes were linked to reflective notes and scholarly research.

Trustworthiness

All attempts were made to ensure trustworthiness during the implementation of the study. Lincoln and Guba (1985) provided definitions and strategies for establishing credibility, transferability, dependability, and confirmability. The procedures for establishing the trustworthiness of this study are detailed below.

Credibility

Credibility refers to how the findings of the research matched the reality drawn from the resources (Lincoln & Guba, 1985). Different techniques were used to establish credibility of the current study. Member checking with the participants was used to validate the emerged themes from their responses (Creswell, 2014). This technique was used during the interviews by asking follow-up questions and restating and summarizing the responses of the students and co-teachers. Member checking in which the interpretations and conclusions of data were shared with the participants was conducted after the interviews. Each participant was given a copy of the transcribed interview; this allowed participants to clarify their intentions, correct misconceptions or errors, and provide additional information if necessary. Also, detailed and thick descriptions were used by including sufficient quotes and examples from the field notes and the interviews to provide evidence for my interpretations of the findings.

Transferability

Transferability is established by providing readers with evidence that the research findings could be applied to other contexts, situations, times, and populations (Lincoln & Guba, 1985). Thus, the study included (a) information about the context of the study, (b) detailed descriptions of the backgrounds and related experiences of the participants in the study, (c) descriptions of my data collection methods, (d) interview questions and artifacts, (e) themes based on data analyses, and (f) timeline of data collection. Such detailed descriptions help readers decide whether the research context was similar to another situation and whether the findings could be usefully applied in other environments (Creswell, 2014).

Dependability

Dependability means the inquiry processes are consistent and stable over time (Lincoln & Guba, 1985). Creswell (2014) stated the more consistent the researcher is in his or her research steps, the more dependable the findings. Therefore, the audit trail technique was applied by continuous self-reflection on the research process.

Confirmability

Confirmability is the degree to which findings could be confirmed or corroborated by participants. The bias of purposive sampling might be reduced by the researcher reporting contrary and different opinions (Yin, 2011). Thus, I bracketed my perceptions of the phenomenon to focus and expand a deeper understanding of the participants' experiences through reporting biases, possible impacts, and my past experiences (Creswell, 2014).

Within the strategies highlighted, triangulation of the data sources was followed to establish trustworthiness and improve the quality of this study. The type of triangulation followed in this study depended on collecting data from multiple sources and participants and using different methods such as conducting observations and interviews and evaluating artifacts. Stake (1995) described triangulation as a technique to help researchers observe and report similar tenors, concepts, and meanings found under different conditions. Triangulation of data increased trustworthiness by using a range of data collection methods.

Peer Debriefing

A peer debriefing technique was used in the current study. According to Lincoln and Guba (1985), the purpose of peer debriefing is to ensure the consistency of the

researcher's approach and to check the validity of the collected information. In this study, an associate professor from University of Northern Colorado who holds a Ph.D. degree in special education and had experience in teaching secondary school students, was consulted. He reviewed the data and the implementation of my research methods critically. He also worked on validating the themes and subthemes by providing feedback and suggestions about the precision and comprehensiveness of the collected data and the analysis process. He carefully read the final report to detect whether or not I had over-emphasized a point or overlooked a point. His input was incorporated into the findings.

Summary

The aim of this case study was to explore the perceptions of co-teachers and students about the effectiveness of co-teaching to support students with SLDs in a secondary school. A qualitative case study was used to answer the research questions from different perspectives. The co-teaching teams, students with SLDs, and students who were nonidentified with disabilities were selected based on purposeful sampling. Multiple data sources were used including observations, artifacts, interviews, and field notes. All attempts were made to ensure trustworthiness by establishing credibility, transferability, dependability, and conformability. The data were entered in NVivo to be analyzed based on the model provided by Yin (2011) that included the following steps: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding. The following chapter provides a description of the findings based on emerging themes. Finally, in Chapter V, a detailed discussion of the findings is provided.

CHAPTER IV

FINDINGS

The target of this case study was to examine the perceptions of co-teachers and students at the secondary level about the effectiveness of co-teaching practices to support students with specific learning disabilities (SLDs). The study took place in a public high school located in Colorado and the school was selected purposefully. This chapter includes findings based on in-depth examinations of the participants' perceptions. The data were collected through classroom observations, artifacts, individual interviews, and field notes. The co-teachers were provided with the consent forms while the minor students were given parental assent forms. The teachers and students who volunteered to take part in the study reviewed and signed the forms. They were also given the right to stop and withdraw at any time.

Data collection began by developing a list of the four co-teaching teams who were willing to participate in this study. Each team taught different core academic classes and various grade levels. Each team included a general education teacher (GET) and special education teacher (SET). The data were gathered in three steps. First, I observed the co-taught classroom. Second, I individually interviewed each co-teacher using the interview protocol. Third, I interviewed a student with SLDs and a student with nonidentified disabilities from each observed classroom using different interview protocols. Field notes were collected with the classroom observations and interviews. The same data collection procedures were followed with each co-taught classroom and team. All the

participants were given the transcribed interviews to validate their responses and the emerging themes to ensure the information accurately reflected the participants' perceptions.

Data were analyzed using Yin's (2011) five steps: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding. I identified the common themes across the data to answer the following research questions:

- Q1 How do co-teachers (SETs and GETs) perceive their co-teaching experience when they have students with SLDs in their classrooms?
- Q2 How do co-teachers (SETs and GETs) perceive their co-teaching experience when they have students with SLDs in their classrooms?
- Q3 How do secondary students who are nonidentified with disabilities perceive co-teaching practices in inclusive classrooms?

Organization of the Chapter

This chapter starts by presenting a description of reaching saturation to answer the three research questions. The findings are then reported in three main sections; each section answers one of the research questions. The first section represents co-teachers' perceptions regarding their experiences of co-teaching when they have students with SLDs in their classrooms. The second section focuses on the perceptions of students with SLDs toward co-teaching practices in inclusive classrooms. The third section reports the perceptions of students with unidentified disabilities toward co-teaching in inclusive classrooms. Themes were used to present the findings of each section. Some themes were divided into subthemes to address the relevant research question in greater detail. At the end of the chapter, a synopsis of research results is provided.

Data Saturation

Saturation in case studies has been used as an indicator to guide the research to have insight into when sufficient data collection has been achieved to answer the research questions (Yin, 2011). Data saturation occurs when collecting further qualitative data would not help the researcher produce new information (Kvale, 2012). Data saturation of this study was reached based on the following situations. First, data collected through observations and field notes included adequate descriptions. Second, the participants provided comprehensive responses on the semi-structured interviews and the follow-up questions after each observation. Third, I noticed a consistent repetition of keywords, terms, and phrases based on the collected information from the observations, the field notes, and the participants' answers from the interview questions and their responses after completing the member checks to validate the themes. With the consistent patterns I observed in the various data sources, I recognized that data saturation was attained to address the three research questions with enough depth.

Research Question One

Q1 How do co-teachers (SETs and GETs) perceive their co-teaching experience when they have students with SLDs in their classrooms?

Data were collected from four different co-taught classrooms (English language arts, social studies, mathematics, and science) by using observations, field notes, and artifacts. Then, a follow up face-to-face interview was conducted with each co-teacher from each classroom. The total number of interviewee co-teachers was seven (three SETs and four GETs). The findings regarding the participants' perceptions about their co-teaching experience when they had students with SLDs in their classrooms were presented by using seven main themes:

- Theme 1: Co-teaching as a Schoolwide Practice
- Theme 2: Co-teachers' Practices to Create an Interactive Learning Environment
- Theme 3: Challenges Regarding Meeting Grade-level Expectations
- Theme 4: Providing Support to Make Content Accessible for all Students
- Theme 5: Co-teachers' Comfort Levels in Their Area of Expertise
- Theme 6: Benefits of Co-teaching
- Theme 7: Keys for Supporting Students with SLDs in Co-Taught Classroom

These themes emerged from the data synthesized from the observations, interviews, artifacts, and field notes. Some themes included subthemes to address the research question more in-depth. Quotations from participants, along with narrative descriptions for each main theme, were used. The themes were also supported with relevant observations and artifacts whenever appropriate and needed.

Theme 1: Co-Teaching as a Schoolwide Practice

Under this theme, the SETs and GETs shared their perceptions about how co-teaching was started in their school, how they became co-teachers in classrooms that included students with SLDs, and what the school administrative role was in supporting this practice. Overall, the participant co-teachers perceived co-teaching as a “schoolwide practice.” They frequently mentioned that the school started emphasizing collaboration between SETs and GETs as a response to the push toward the inclusive education movement and the growing numbers of diverse students in the school district.

Smith, David, and Melissa summarized the school experience of co-teaching. They mentioned that before the school transitioned to officially using co-teaching three

years ago, there was a program called “sheltered” to serve a large number of English language learners. Also, special education classrooms provided instruction individually or in small groups for SWDs. In sheltered program and special education classrooms, GETs were responsible for teaching academic content with support by paraprofessionals or SETs. In 2017, the school district gravitated toward co-teaching models and provided professional development using these models. During 2017, some teachers from the school were involved in professional development training programs provided by the district. However, co-teachers who attended the training were involved as individuals and not as teams. In 2018, the SETs and GETs started co-teaching English language arts and mathematics classes. In 2019–2020, co-teaching was used widely and officially under the supervision of the school leader and the chair of the special education department. Then, different co-teaching teams were formed and each team included a SET and a GET. Moreover, co-teaching was implemented gradually across different grade levels and content areas with more focus on the core academic courses.

During the interviews, the participants started to communicate their perceptions based on their experiences in the school by sharing the stories of how they became co-teachers. Based on the participants’ responses, being a co-teacher in classrooms that included students with SLDs was not an optional or individual decision. All the participants in this study, whether they were veteran or novice teachers, indicated co-teaching was a schoolwide practice under the school district’s supervision and school administration.

Veteran teachers (Smith, David, and Melissa) witnessed the movement of the school from discussing inclusion to official co-teaching for all core courses in 2015–

2016. They perceived co-teaching in their school as a decision made in response to the state's growing and diverse population. Smith, a social studies GET with 20 years of teaching experience, had been co-teaching at the school for three years. He believed demographic changes due to a "huge influx of refugees" and an increasing number of SLDs reinforced the school's position to use co-teaching. He added:

These students were put into regular classrooms and were failing, because they just didn't understand it. So, we felt that it was a lot... We don't do this in all classes, and we're still trying to learn. We're still wading our way through this stuff, but we've learned that if we put them into one class, an enclosed combination class with co-teaching, then we are able to meet their needs.

Melissa, who was in her seventh year of teaching and fifth as an English language arts co-teacher, said, "We in the school started to use co-teaching when we had a higher number of students, either on an IEP or who were English language learners." David had seven years of teaching experience, all of which was in co-taught classrooms, and described the start of co-teaching at the school as "a big push "from the school district to create more "inclusive education."

On the other hand, the teachers who had three or less years of teaching and co-teaching experience stated they were explicitly asked to co-teach by the school administrators when they were hired. Lillian reported, "So, my first position was actually here...and my first day I was told, 'We co-teach only English and math, but we're starting social studies, so you're going to go into social studies,' and from there it was every semester." Ronald said, "Mmm ... They kind of just assigned me [to] co-teaching...they told me that I'm going to be a co-teacher." Stacey had a similar experience, "It was just

the job I accepted (smile). I was asked by the admin during the job interview if I would teach science with another teacher, and I thought that'd be fun." Nora did not volunteer but she accepted the school's decision:

It's actually assigned to me by the admin. When I got the schedule, I'm pretty sure Stacy requested me like, "I want to co-teach with Nora." I think that admin just made it so that the schedule was that I would be co-teaching. When I got hired, they were like, "You will probably be co-teaching." And I'm like, "Sweet, sounds good to me." That was my experience. I never really volunteered. They were just like, "You're probably going to do this." And I'm like, "Okay.

Administrative support played a role in making co-teaching a schoolwide practice. This support based on the co-teachers' experience came in different forms: developing a master schedule, promoting common planning, and creating professional learning communities (PLCs). According to Melissa, "In 2017–18, the school administration started to work more with the master schedule. The master schedule developed by the administrators helps get co-teachers to have common planning periods and became part of PLCs." Professional learning communities under school administrative supervision allow co-teachers to plan, reflect, and exchange ideas and experiences to provide support for all students including those with SLDs.

Lillian explained a PLC as a "meeting" of grade-level teams twice a week to not only plan for instruction but also think about how to help students with SLDs make better progress in co-taught classrooms. David also described PLCs:

These are good times that we have those conversations about how we do things for our kids with it. Because we have several teachers teaching math, pre-algebra

and geometry, and myself in algebra and go through the SPED viewpoint of how we can assist the kids better.

With an aggrieved tone, Melissa expressed concern that “our school cut our co-teaching committee this year” but she showed appreciation for being involved in those PLCs. She said with a broad smile on her face, “I think all of that really helped to make our team stronger than before when they just threw another teacher in there and there wasn’t a lot of intentionality to it.”

Overall, the co-teachers’ comments related to the first theme revealed co-teaching at the school represented a wide practice rather than an option. They were assigned to co-teach by the school administration to respond to the district push toward inclusion. However, none of the participants mentioned the idea of using co-teaching in relation to RTI. They mentioned the administrators’ efforts to establish this practice by using the master schedule to plan times teachers had in common or to reach times planned in common and to attend PLCs.

Theme 2: Co-Teachers’ Practices to Create an Interactive Learning Environment

My reflection on the observations and field notes led me to generate further questions about the physical arrangements of the co-taught environments. The sketches were used as a part of the observation tool to capture the arrangement of each observed classroom. However, these sketches were not enough to understand the purpose of grouping students in specific ways. The co-teachers’ responses to the interview questions allowed me to expand the scope of the collected data from the observations. Their

responses to the interview questions revealed they shared the responsibility of classroom arrangement and intentionally grouped students using seating charts.

This theme related to the co-teachers' beliefs about their functioning within their learning environment. The co-teaching team members shared their beliefs about the importance of grouping students in a meaningful way in co-taught classrooms, especially during group work. This theme highlighted that including SLDs in their co-taught classes was more than physical placement. Two subthemes addressed the co-teachers' perceptions toward their practices of grouping students with SLDs, especially during group work, to create an interactive learning environment: (a) planning for grouping students and (b) using heterogeneous and homogeneous grouping.

Planning for including and grouping students. Neither of the SETs or GETs indicated the students with SLDs were included randomly or grouped based on individual decisions in the inclusive classrooms. They frequently mentioned they planned to intentionally include and group students in "different ways." They believed purposeful grouping helped enhance meaningful social and academic interactions between and within students with SLDs and their peers as well as with the teachers. They also thought student groupings should maximize learning opportunities for students with SLDs while considering their individual characteristics and the teachers' abilities to manage classroom behaviors. One of the most explicit comments about grouping students was made by Melissa. She confirmed that grouping students was widely practiced across co-taught classrooms: "We definitely have purposeful grouping for sure in our school." Nora indicated the role of the assistant principal in encouraging co-teachers to group students in meaningful ways: "Admin structures the schedule actually for kids with IEPs.

They put specific gen ed kids that they know will get along with that population.” Nora and the other six co-teachers indicated they used “seating charts” to consider students’ interactions and classroom management.

Using heterogeneous and homogeneous grouping. “Using a seating chart” was the most frequent phrase participants mentioned to fluidly group students with SLDs in two different ways: heterogeneous grouping and homogeneous grouping. Regardless of the grouping type, the co-teachers believed grouping decisions should be made carefully by considering the students’ characteristics and the purpose of the academic task. The following sections include examples of how the co-teachers described their practices and the rationales of using certain grouping methods in inclusive classrooms.

English language arts co-taught classroom. Figure 3 shows that groups of three students sit in rows; most of them in the middle of the classroom face the board while the rest of them sit on the sides of the room. During the individual interviews, the co-teachers stated they used to group students heterogeneously rather than homogeneously. Lillian thought grouping students varied from day to day:

On that day, it was more based off of behaviors because we have a lot of students that are very high... They're very well behaved, meet expectations, want to meet or exceed them. And then we have a couple of students that are the complete opposite, that they're not as willing as others to stay on task and be on task. So, we try to pair them up next to those who will be a positive role model, for them to want to stay on task, or will not be as tempted to get off task themselves.

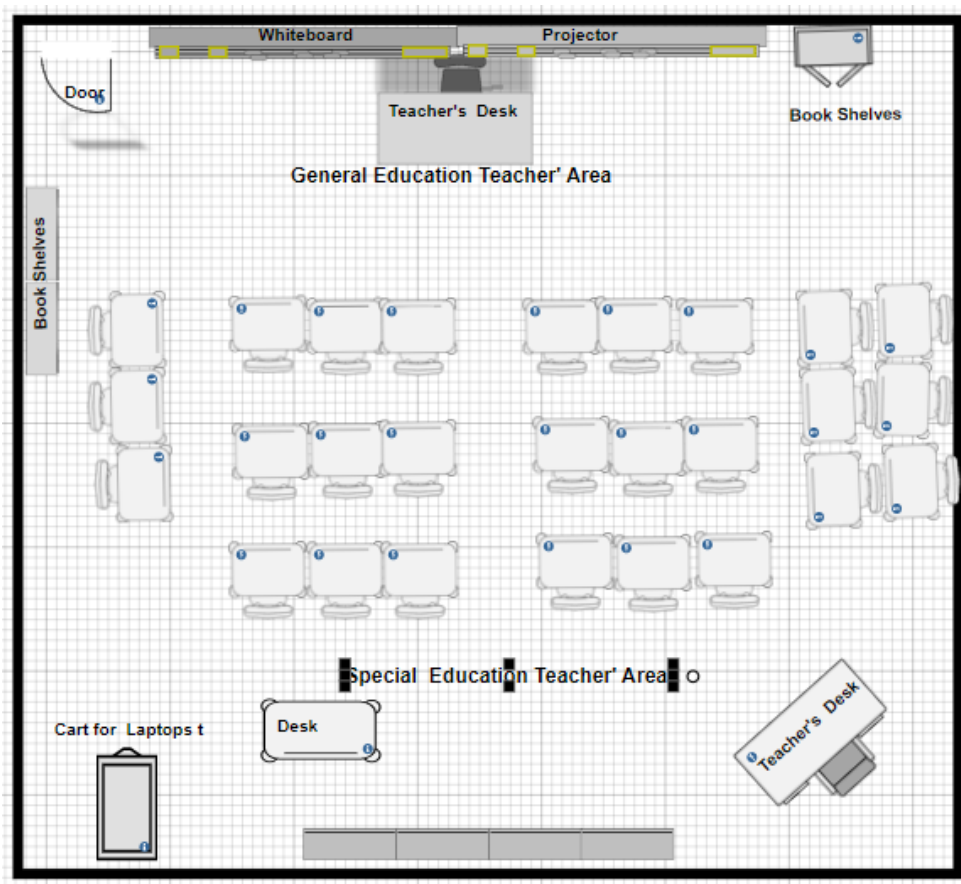


Figure 3. Sketch of English language arts classroom.

It should be noted that Lillian's area of work was designated but she did not use it during the classroom observation. She was moving around the classroom to check students' work and to provide help for those who were struggling.

The descriptive data from the observations showed the interactions between students in the English language arts class were limited. Most of the interactions that were documented occurred verbally between the students and co-teachers such as providing feedback, responding to questions, and reading the instruction as needed. Interestingly, when I was sitting in the corner recording my observations, Melissa came to me and said, "Sorry, I hope we make it [a] more interactive lesson today." Later, I

asked her during the interview what she meant by her comment. She laughed and said, “As far as from an observation standpoint, because they were working independently most of the time on computers, that day.” Then, I asked Melissa how she would create a more interactive lesson and environment. She answered,

As far as for social interactions, I think students at the school, I'm always impressed with their desire and their ability to interact with all students. I think that kind of naturally happens, but the thing as far as what we implement as teachers, I see that more as the academic side, the stations that we're working in or the group work that they're doing and making sure that they are with students at different levels.

Lillian also pointed out the importance of collaborative learning to create meaningful communication between students:

As moving forward in English Art class, we have to use Socratic seminar coming up. So, we will have grouped students to ensure that there are students with SLDs in a group where students have not been identified with a disability, in order to kind of challenge their thoughts as well as find different perspectives.

She added, “Having a mixture of all of them in one group can not only challenge them academically but also with their social perspectives on the topics that we've shared out.”

Social studies co-taught classroom. Grouping students in the social studies classroom was different than the English language arts class. Figure 4 shows the students sat in groups of four students and two students faced each other. Lillian was working during the whole class period at the end of the classroom, providing support for only two groups of students. Some of the students in these groups were speaking Spanish.

According to Lillian and Smith, the primary standard for creating groups was the similarity of student needs. Lillian explained how she grouped students with SLDs with her co-teachers:

They're by two kind of categories: it's by their needs, so are they going to need significant scaffolds? And then by their English language level proficiency, because some of them are dually identified as English language learners as well as with a SLDs. I try to take both into consideration with grouping them so that they're still being challenged with the language piece, while still meeting their needs if they're going to need specific scaffolds or specific instruction.

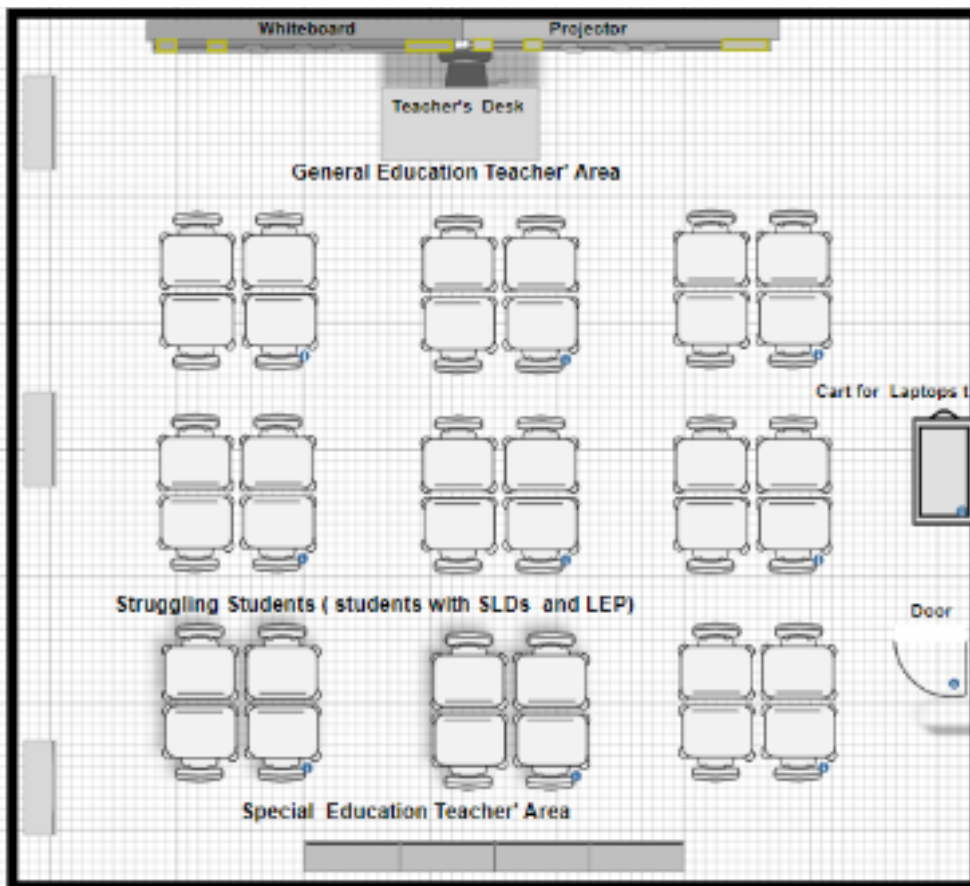


Figure 4. Sketch of social studies classroom.

Lillian added, “We’re mixing them up with our students that are a lot higher with English proficiency, with lower English proficiency in order to allow them to grow, not only in language but also academically.” Smith’s description of grouping students was similar to Lillian’s. However, he linked the grouping method to the number of students with SLDs in the class: “The kids with disabilities, we have them grouped, because that's the majority of our group, is... So, we have two table groups.” He also referred to role of SET as supportive or facilitator of the students learning: “So, Lillian sits in the back so she can work with those kids. It's easier to access it, but at the same time, the way we're grouped in our pods, you can also talk to the kids as well in Spanish.”

Figure 4 reflected Lillian and Smith’s description. Additionally, it was evident by the observations that the SET was in the back of the classroom supporting students with SLDs who had language barriers while the GET led class instruction. The social studies class was the only class where I was able to distinguish students with learning disabilities.

The recorded interactions in the class included talking, laughing, discussion, peer support, and group work. However, these interactions occurred more between students with SLDs who were supported by Lillian, while the students who were sitting in the front of the classroom interacted with each other and the GET. The interactions as a whole class, those between students with SLDs and the rest of the students, were almost nonexistent during the observation period. The selected grouping and co-teaching model (one teacher with one assistant) imposed, to some extent, the nature of the interactions accorded in the social studies classroom.

Mathematics co-taught classroom. Figure 5 shows students sitting in groups of four students in the social studies class. However, it was not easy to differentiate between students with SLDs and those who were not identified. Additionally, they were no designated areas for each co-teacher to work individually or to provide support for a small group of students by the SET. The co-teachers were moving around the classrooms and provided support for all students as needed.

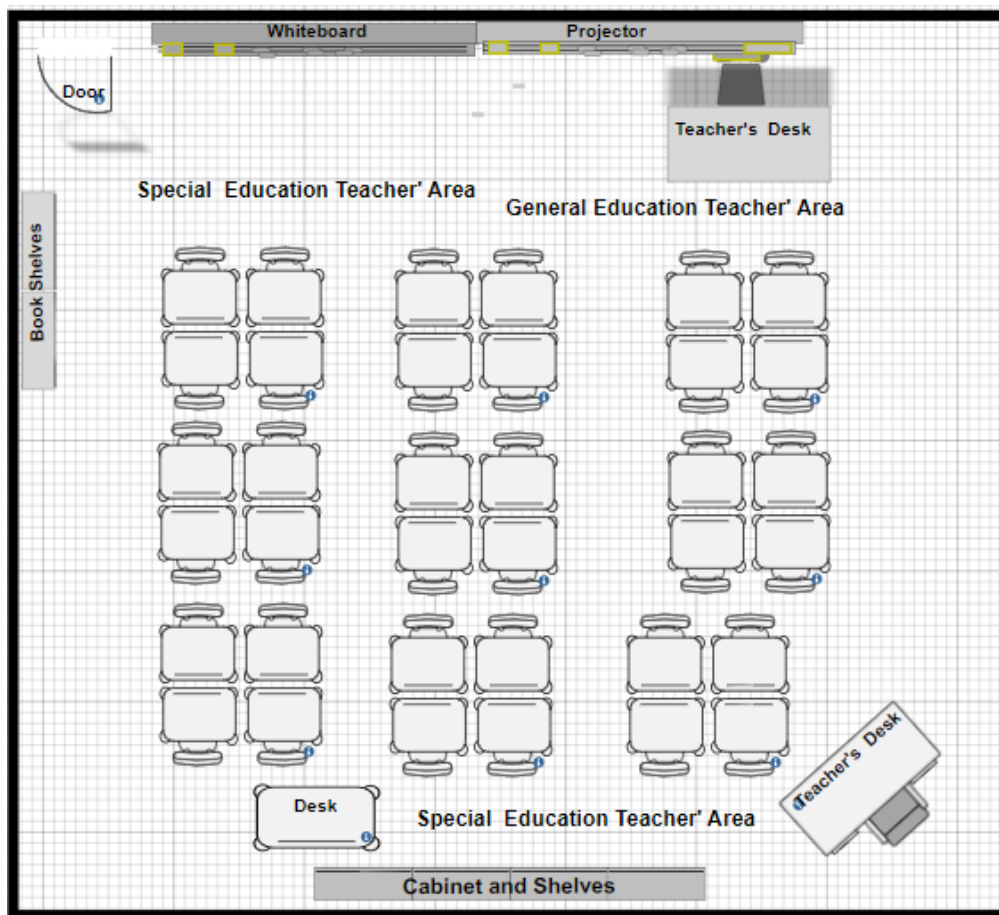


Figure 5. Sketch of mathematics classroom.

David explained the technique he used with Ronald:

We mixed them all up together, sometimes he knows specific students' struggles, and he intended to put them in a group with maybe one or two other students with SLDs. I know they are going to struggle so when we are done teaching, I can sit with that group specifically.

Ronald and David used the phrase “allowing productive struggle” to describe the benefit of using heterogeneous grouping for students with SLDs. Ronald illustrated the meaning of the phrase:

If there's a student that is an IEP that has very low skills and they asked me a question, I would first say, "Did you ask your group members if they know how to do it?" So, right away they kind of establish a line of trust, a contact kind of thing. And I won't answer his question, or her question, unless the whole entire group doesn't know that question. If the whole group is struggling, then I'll help that group work through it. But if only that particular student is struggling, and the other two or three students are just fine on it, I'd have them teach it to them or learn from them.

In summary, David and Ronald indicated the importance of using flexible grouping (heterogeneous and homogeneous grouping). They also believed that using heterogeneous groups was important. Heterogeneous groups allowed students with SLDs to develop meaningful relationships with their peers and to overcome their struggles in the co-taught environment.

The interactions between and with students and teachers were remarkable. The co-teachers used a team-teaching model half of the class time and had one teaching and

one assisting in the second half. The co-teachers moved around the class, providing feedback and answering questions as needed. Ronald described his co-teaching experience in math class, “It's very group orientated.” Moreover, he did not show any concerns regarding social interactions when he said, “Students’ interaction is kind of organically there when they're doing group work and working through problems themselves.” Ronald’s comments were consistent with the observed interactions in mathematics class.

Science co-taught classroom. Figure 6 shows a sketch of the classroom arrangement in science. The students sat in three rows and three columns. Three students sat together on the same desk and all the students faced the whiteboard. According to the data from the classroom observation, the SET was moving more than the GET around the classroom to provide support, observe negative behaviors, and redirect the students to listen to the GET's instruction. The science co-teaching team paired the students based “on task” behaviors and the abilities of the students “to work together and be productive.” Nora and Stacey were not worried about the abilities of the students with SLDs to interact with their peers. However, their concerns centered on how to direct their interactions to be meaningful to learning. Nora took a deep breath and elaborated:

it’s not too hard to get them to work together in a group. Sometimes you have to force them to work with people they don't care for.... We like to put people that will work well together in the desks, and then the people around them make sure that they're not just surrounded by people that might distract them and other

things like that. We try to definitely purposely sit them with someone that they will actually get stuff done and be productive.

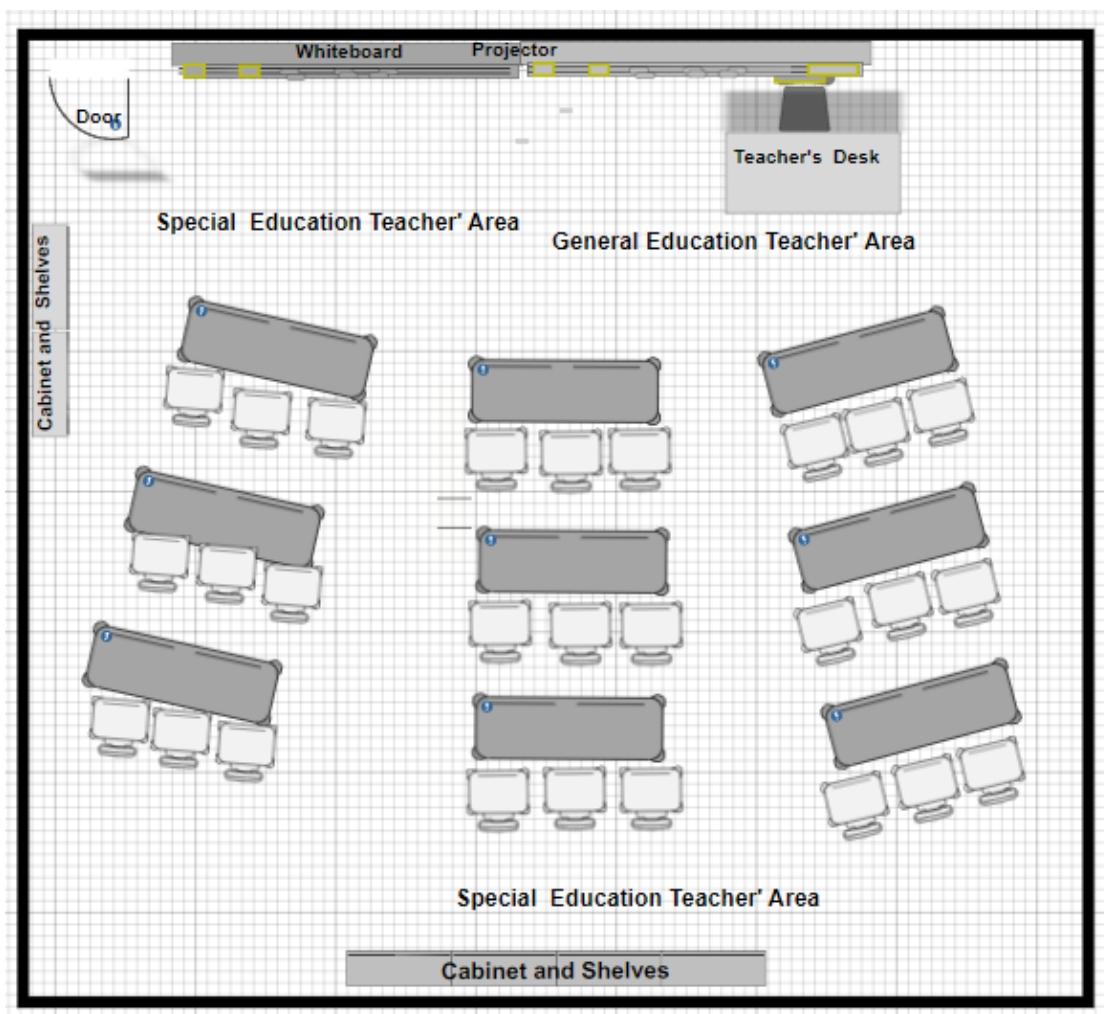


Figure 6. Sketch of science classroom.

Stacey provided relevant examples to Nora's idea:

I have some of my really low students who are reading at a third-grade level with some of my really above grade level and really patient people. So, I have a couple of girls in my class right now who are extremely patient. So, I kind of paired them up with some of the kids on IEP's.

Stacey also indicated the consideration of the type of teaching strategy besides the use of purposeful grouping to create an interactive learning environment for students with SLDs. She said, "We also try to stay away from the classic lecture of teachers just talking, and you write and take notes."

Figure 6 showed the GET (Nora) was standing in the front of the classroom to lead the instruction. The SET was moving between the front and the end of the classroom. Based on the data from the classroom observation, the SET was moving more than the GET around the classroom to provide academic support, observe negative behaviors, and redirect the students to listen to the GET's instruction.

Based on the classroom observations and the field notes, the students in the science classroom frequently showed off-task behaviors by moving from their seats and leaving their groups. They were less engaged with the lesson provided by the GET and showed less discipline to the SET's directions compared to other co-taught classrooms. This team was also the team that most expressed their struggles with grouping their students in terms of behaviors.

Theme 3: Challenges Regarding Meeting Grade-Level Expectations

According to the co-teachers' views, meeting grade-level expectations of students with SLDs in co-taught classrooms was difficult. They frequently stated there was a "gap" between the current levels of academic attainment and functional performances of these students and the required expectations in co-taught classrooms. The co-teachers referred to two major challenges during the interviews: (a) depth of curriculum and pace of instruction and (b) lack of reading comprehension skill.

Depth of curriculum and pace of instruction. As mentioned in Chapter III, four different observations were conducted in varied subjects at different grade levels. Table 5 presents the information of the content area, grade level, and lesson title for each class observed. The common observation across these classes was the scaffolding of instruction used by the co-teachers to deliver the lessons. I noticed the main ideas of each lesson in each class were divided into parts. This was also evident because of the title written on the whiteboard for each classroom.

Table 5

Snapshot of the Subjects for the Observed Classrooms

Content Area	Grade Level	Lesson Title
Social Studies (U.S. Government)	11th & 12th	Writing to a Congressional Leader (Part III)
English Arts	8th	Argument Writing (Part II)
Fundamental Mathematics (Pre-Algebra)	8th	Rules of Simplifying Algebraic Expressions (Rule 6)
Science (Earth Science)	9th	Continental Theory (Part I)

During the follow-up interviews, the majority of the co-teachers expressed serious concerns about the demands to cover a vast amount of content for the core courses in a relatively short amount of time. They believed these concerns added a layer of complexity to meet grade-level standards of students with SLDs in co-taught classrooms. For instance, when I asked Smith about the most prominent challenge faced in his

experience of co-teaching students with SLDs in the school, he immediately responded, “The content itself.” Then he elaborated,

This is a government class, it's required to graduate, I'm required by state to teach that. We can't go as deep, because it's hard for students with SLDs to make that connection. So, we go slower, and we don't go as deep into the information, so when they do take their tests, they do take their exams, ... They have the ability to at least give me the basic ideas behind it, “Now, do I take them deeper? I can't. I don't have time for it. If this was a yearlong class, then yeah we would have time, because we could go slower and find those individual connections, but I have 18 weeks with them to get through multiple topics” That's the beauty behind this class "Okay, what do we need to cut out, so everybody achieves?

The mathematics co-teachers reflected on their recent experiences with using a new math curriculum. Ronald commented about the gap between the nature of the curriculum used and students' IEPs goals, “It doesn't allow very much time for backtracking.” David also shared his concern about meeting the curriculum expectations of students with SLDs:

I don't know if we totally taught it with the fidelity that maybe it was supposed to be.... So just step back and give them time. It's hard for me, it's really hard to do it actually. Ronald too, he just wants to get in there and help them. He wants to get in there and work with them. And we talk about time and how it can be some can be semi-frustrating sometimes because we have to step back and let them practically struggle.

On the other hand, David referred to the importance of making the needed adjustments and scaffolding their instructions as a team:

We've had to throw in some other lessons where kids were just not making it and we needed them to make it. We needed them to get the skill so that we could teach the next skill. Because math like that, it's like you build a skill on top of each other. Or maybe we have a new skill, maybe we have the old skill that we're practicing a new skill, and then independent work or different ways that we've done that.

David concluded by indicating the decision of meeting grade level expectations of students with SLDs in a co-taught classroom was a “hard balance.”

Lillian and Melissa were worried about the slow rates of their class instruction but they frequently mentioned that providing “scaffolding” was the most effective way to meet the needs of students with SLDs and addressed the depth of the curriculum.

Stacey’s concern was the depth of the curriculum and pace instruction based on her experience in the science class: “We do a lot of reading, I feel the time piece is really challenging because the pacing for a co-taught class is going to be slower than other non-co-taught classes.” She compared her experiences with students with SLDs in co-taught versus traditionally taught classes:

We go into more detail and slower. So, we go over those same topics and do the same assignments, but we take maybe twice as long. So instead of doing one day for the activity we did today we're going to do two days. Anything that gives students with LD the time they need to process that information.

She concluded, “So, I'm hoping by having that extended amount of time, the pace that we're going at and the support, they're able to kind of bridge that gap a little bit more. Just because they're having that.”

Lack of reading comprehension skill. I noticed the co-teachers, especially the SETs, were reading the instructions for the activities or worksheets out loud for some students who struggled to complete the required tasks. All the SETs and only one GET, Ronald, clarified that some students with SLDs lacked reading comprehension skills, which made them struggle to access grade level curriculum across different subjects. David expressed the complexity of this issue:

You might not have a math disability or a specific learning disability in math, but if you have a reading comprehension goal, you're going to struggle in most of your classes or you're not going to struggle, but you're going to have issues with the reading and notes of every class because reading comprehension is your specific learning disability.

Ronald nodded his head left and right when describing math curriculum as “very language-rich.” He said,

As a teacher it's kind of difficult knowing that maybe a student is at a fourth-grade reading level and maybe a seventh-grade math level. It's hard to overcome both barriers at the same time. A lot of time they rely on me to read it to them and understand the questions, which is kind of doing a disservice to them. Because then they get comfortable asking me for questions on how to read this text. But if they never try to read the texts themselves, and sound out the words and

understand the vocab, then we're pretty much not really going anywhere, you know?

Stacey shared her experience of co-teaching science: “We do a lot of reading.” She stopped for moments and said, “Ooh. I think the biggest thing is allowing them to access the grade-level material.” When I asked her how to help students access the curriculum, she said, “We're trying to build that academic stamina and just advocating for them to ask for help.” She continued,

I feel like those are really big things that even I'm guilty of sometimes. Of just giving them the grade level reading that they're at. Like the fourth-grade level instead of the ninth grade one and be like, "No, wait." I should have given them a ninth grade, let them try.

On the other hand, Lillian thought that addressing the issue related to reading comprehension depended on the subject. She explained, “In social studies, it's a lot harder than English Language Arts because it's more discussion based versus actual written.” She indicated she and her co-teachers “still try to incorporate as much writing as we can. This year we are moving more to Socratic seminars instead of more discussions in order to include that reading and writing piece.”

In conclusion, both SETs and GETs perceived meeting grade level expectations of students with SLDs to be difficult. They referred to two major challenges: (a) depth of curriculum and pace of instruction and (b) lack of reading comprehension skill. However, they believed they could make the curriculum accessible for these students as well as for their peers without disabilities.

Theme 4: Providing Support to Make Content Accessible for All Students

This theme discussed co-teachers' perceptions of making the curriculum accessible for all students within the co-taught classroom by providing the appropriate support. The collected data revealed the participants used adaptations and differentiations of their instructions in the co-taught classrooms. Table 6 provides a summary of the common adaptations and differentiations documented during classroom observations. Both SETs and GETs clearly distinguished between adaptations and differentiations. They perceived differentiated instruction as providing support to all students learning the same curriculum but at different ability levels by using multiple ways to present content, process information, and show their learning and engagement. In contrast, they perceived adaptations as accommodations provided for every single student with a disability based on the IEP to be successful in inclusive classrooms. The SETs shared their experiences of linking the IEP goals to the content taught in inclusive settings. The following subtheme summarized the co-teachers' practices and perceptions about using adaptations and differentiations and addressing the IEP goals to make the content accessible for all students.

Table 6

Summary of Documented Adaptations and Differentiations

Adaptations	Differentiation
Accommodations <ul style="list-style-type: none"> • Using guided notes (see Appendix M) • Translation from English to Spanish. • Using calculators • Oral responses in lieu of written. • Access to a scribe or someone to read texts to the student. • Extended instruction, such as video playlists or access to models or examples. • Extra time to complete testing. • Extra time to complete homework. • Alternate settings to complete tasks. • Accommodated worksheet (see Appendix N) 	Multiple Ways to Present the Content <ul style="list-style-type: none"> • Using reading materials at varying readability levels • Working in small groups to reteach an idea or skill for struggling students Multiple Ways to Process the Information <ul style="list-style-type: none"> • Using tiered activities to address the same concepts but proceed with different levels (see appendices O1, O2, O3, and O4) • Using graphic organizers (see Appendix P) Multiple Ways to Show Learning and Engagement <ul style="list-style-type: none"> • Allow working in small groups to complete activity (see Appendix Q) • Learning environment and flexible physical arrangement that allows students to work individually and in groups (see sketches in Figures 2, 4, 5, and 6)

Adaptations as individual-oriented approaches for students with disabilities.

Throughout this study, co-teachers placed a substantial focus on the challenges of achieving grade level expectations of students with SLDs (see Theme 3). However, they believed providing adjustments for students with SLDs to access grade level curriculum helped to fulfill the requirements in the co-taught classes. Based on their responses on

the interview questions, the co-teachers frequently indicated the importance of “making change/using adaptation” that mainly focused on meeting the individual needs of students with SLDs based on their IEPs. According to the individual interviews, the co-teachers mentioned two different types of changes and adaptations. The first type provided access to the general curriculum but did not fundamentally change the learning goal or grade level standard (accommodations). The second type made extensive changes that altered the standard expectations because of students’ severe deficits when accessing the general curriculum (modifications).

In almost all the observations, the primary responsibility of the SETs was to provide individual support and required adaptations for the students with SLDs. Based on the observations and interviews, the SETs were responsible for providing individual support using evidence-based practices such as modeling, peer support, scaffolding, and graphic organizers. The co-teachers showed their efforts to assist students with SLDs by using adaptations related to instruction instead of using alternative curricular modifications. Lillian described the effectiveness of providing individual assistance as a mode of customizing the instruction within a co-taught classroom: “That is more of a supportive, all supportive teaching where it is more of going to individual students throughout the activity, versus pulling a small group to teach.” The four GETs also recognized the importance of providing adaptations for students with SLDs. However, two of the GETs displayed reliance on the SETs in providing these adaptations. For instance, Smith described the role of SETs in the co-taught classroom:

They know what the IEP responsibilities are, and they know what the kids need.

This kid needs modifications, extra time." I'm not going to sit here and say, "No,

don't do that." They do what they need to, and then it allows me to focus on the general content, and then we can adapt it to what the different areas that we need to.

Melissa described reviewing students' accommodations based on their IEPs as "super helpful" in the English language arts class. She explained the role of her co-teacher: "Since Lillian is the SET, she went through IEPs and created a one page document that laid out accommodations that we have and for each kid I made a spreadsheet but it is still my job to go in and look at IEPs and look at goals." But she commented she still had "a little bit of extra time" to go in and look at the IEPs by herself.

Based on the classroom observations, the co-teachers, more specifically SETs, limited the adaptations to individual help and use of accommodations. Appendix M shows an example of the guided notes used as accommodation for students with SLDs in the science classroom. Another example of the instructional adaptation used for students with SLDs in the mathematics class can be found in Appendix N, which shows the difference between the original worksheet provided for all students and the adapted version for students with SLD. The adapted sheet included an example of how to solve the problem with explicit instruction, while the original paper does not include any illustrations nor detailed instructions. It is worth mentioning that I did not record any modifications for struggling students nor adaptations for the students who had unidentified disabilities.

Differentiation as a supportive approach for all students. The co-teachers indicated they supported all students by providing multiple ways to learn and show what

the students knew. The co-teachers referred to differentiation as a flexible strategy to provide options for all students to learn based on their level of abilities. The co-teachers' responses about the use of differentiation included the following.

- We're to stay within striking distance of all students. We can find documents that are challenging to our higher-level learning, and then those that are brought down reading level wise, they get the same document, just here they get excerpts. They get the whole thing. They're still reading the same thing. They're still having to look for the same thing.... That's where the beauty of our documents' differences are. (Smith)
- It's basically like changing the rigor of the words. It's the same exact article. It's just there's...you can do it at grade level, you could do it higher grade level, you could do it lower or grader level. (Nora)
- If we're doing a reading assignment, I will offer to read it to a certain half of the class. I'll just say, "Hey, I'm staying over here. If you want to hear it read, you can come over here." (Stacey)
- In English class, it's typically our templates or graphic organizers, we made three levels of templates for students to need. (Lillian)
- Having people come in for tutoring, pulling out small groups, reteach, or a lot of visuals. (Ronald)
- Differentiation and the different graphic organizers or the different things like pull out groups or whatever, all those things are just good things for kids to learn or to help kids learn. (David)

- A lot of the things that we're doing to help students with LD are good for all of the class and then when we can differentiate or it makes sense to differentiate up for those kids that need more of an extension, that's kind of how we've approached it this year. (Melissa)

Differentiation techniques were used by co-teachers during the classroom observations. For instance, in social studies class, the co-teachers used tiered instruction to write a letter to a congressional leader. Tiered instruction based on the co-teachers' interpretation (Smith and Lillian) meant allowing students to work on the same task but at different levels of difficulty based on their abilities. Appendix O1 shows the general guide that was provided by the co-teaching team for all students to write the congressional letter. Appendix O2 shows specific outlines with examples of sentences to write the letter, while Appendix O3 includes similar instruction but with an example of full letter. Appendix O4 shows the instruction for writing the letter using guided notes and questions. Appendix O4 was provided for some students with SLDs in the class. The English language arts team believed in the importance of using visuals and graphic organizers to address the diversity of students' abilities in inclusive classrooms. Appendix P provides an example of a graphic organizer (*Venn diagram*) for students in English language arts to write an argument essay addressing these two perspectives: Why college isn't for everyone? and, why college is very much worth it? The SET indicated she used this diagram several times in writing to compare and contrast two or more groups of ideas by visually displaying the similarities and differences in two circles that overlapped. Appendix Q shows part of the materials used during group activity in science class. The activity included visuals to illustrate the main idea of the Pangaea

theory. The students worked in a group of three students. They were asked first to cut shapes and simulate the Pangaea theory. Then they were asked to answer the open-ended question verbally and fill out the table.

Quotations and artifacts related to differentiation mainly focused on providing instructional practices suitable for all students without changing the fundamental expectations of the grade level. The co-teachers used differentiations related to content, process, product, and resources in their co-taught classrooms for all students including those with SLDs. The observations and some of the artifacts showed differentiations for learning content and materials, processing information, working in groups, and changing the setting. Interestingly, none of the co-teachers mentioned using differentiations to address students' interests and preferences.

Theme 5: Co-Teachers' Comfort Levels in Their Area of Expertise

Individual interviews revealed another dimension of the co-teachers' comfort levels in three main areas when they had students with SLDs in their classrooms: content knowledge, adaptation, and classroom management. In the following two sections, the perspectives of GETs and SETs are presented in more depth. Each section includes examples of the most relevant quotations that illustrated participants' perceptions.

Perceptions of general education teachers. Overall, the GETs felt confident in their knowledge of academic content. On the other hand, they seemed less comfortable with adapting instruction to meet the needs of students with SLDs. Additionally, they shared concerns about managing students' classroom behaviors. Although the GETs had

similar views regarding content knowledge, adaptation, and classroom management, they showed some variation.

Content knowledge versus adaptation. All of the GETs reported they had strong self-confidence about content knowledge. However, Ronald and Nora had the most explicit responses regarding distinguishing between their abilities for delivering the curriculum to the whole class based on the standards and delivering the content for students with SLDs who were below grade level. Ronald was positive about his ability to teach the content in general but he expressed his concern about teaching the content to students who had IEPs and were below grade level: “So the content itself I really don’t have any problems with.” He hesitated but continued:

I feel like there's a certain level of patience that teachers have to have, because I have a lot of kids that are very below grade level, and for a teacher, I have to show mastery of the standard that I'm teaching. Geometry, the students have to show mastery about, you know, angle relationships and similarities. But, if they're at a fifth-grade level, then it, for a teacher, can be very frustrating to get them there.

After smiling, Nora commented, “I’d say I’m pretty confident. I mean, I do it all day.” However, she showed appreciation for working with a GET, describing it as a “supportive system” to help students with SLDs access grade level curriculum. She elaborated on her viewpoint by linking her ability to teach the content to struggling students to considering their numbers in the class: “I have this one class and it has a lot of students with IEPs and it's definitely hard being by yourself, I think you need a support system that you can count on each other to make sure that every kid is learning.”

Managing the classroom. The GETs agreed they felt more comfortable with teaching the content than managing the classroom. However, each GET showed a different degree of agreement on how to manage co-taught classrooms including students with SLDs. For instance, Nora and Smith described classroom management as “challenging” but said they felt supported by having their partner SETs. Nora confirmed that by saying, “It’s definitely made a lot more comfortable having another person in the classroom.” Appendix R shows the daily directions sheet Nora developed with help from her SET dyad (Stacey) to manage classroom behaviors.

Smith commented on the complementary roles SETs played in co-taught classrooms: “The beauty behind our dynamics of our team allows us to be able to have organized chaos to manage my classroom.” Conversely, Melissa and Ronald felt they had the abilities to manage students’ classroom behaviors. Melissa described her ability as follows: “I have a strong classroom management.” However, she recognized that classroom management could be a challenging task in some cases depending on the students’ behaviors. She clarified her opinion:

I have some strategies, but it's always still a challenge if there's a student who's really acting up, there's never one right answer. It's always every kid is different and day to day. There are what works and what they respond to one day, they might not respond to the next day.

Melissa believed students’ negative behaviors affected her ability to adapt the content: “I think that that’s always more of a challenge for me on adapting the content.” On the other hand, Ronald showed more confidence. He believed the behavioral issues in the co-taught classroom resulted from students’ inability to understand the content. He

defended his opinion based on his experience co-teaching for two years: “I find that kids that don’t understand the material, that’s when the behaviors come out.”

Perceptions of special education teachers. The SETs perceived themselves as experts in using adaptation and behavioral management strategies. In terms of content knowledge, they did not see themselves as experts but they showed a reasonable satisfaction level with themselves. They linked their perceptions about the areas of adaptation, behavior management, and content knowledge to the length and type of their co-teaching experiences and their efforts to show their professional growth mindset by being willing to learn how to support all students.

Lillian started her professional path co-teaching at the high school. She indicated she experienced co-teaching of core courses (English language arts, art, social studies, and mathematics) and physical education. When I asked about her comfort level with content knowledge, adaptation, and classroom management, she responded, “I’m really comfortable with all of that, because I’m willing to go out and research new models, new classroom management strategies to implement, or looking up videos on how to present material to students.” She provided different examples based on her experience in social studies:

We did not know how to present how legislation becomes a bill, it was confusing for ourselves, but we figured it would be for students as well, but going online we researched and we found a graphic organizer that would be perfect, that became a flow chart and that's what we've been using to teach all the content. With classroom management, we've been looking into token economies and whole class point systems to help with our classroom management, because we have a

couple classes that are really tough to deal with in terms of classroom management.

Stacy was in her second year of co-teaching and was working toward completing her master's degree in applied behavioral analysis. When I asked about her comfort level with adapting the content and managing behaviors, she smiled and answered:

I feel definitely more confident in those things than in presenting the academic information just because that's kind of my area; I like behaviors... I feel pretty confident that I'm given enough time to explore my different options of how I would accommodate based off of the lesson or notes or whatever.

She thought her first year of co-teaching experience contributed to enhancing her confidence in science class: "We have a really, really hard class that we co-teach... For me, it's been really great cause I feel like after I'm done co-teaching, after a year, I have all this knowledge on how to present information."

David had seven years of education experience at the secondary level. He co-taught six different classes with six different curricula. He adjusted the classroom seating arrangement by pulling his chair in front and described himself as such: "I'm pretty comfortable, but I'm trying to be humble whether in teaching the content, using adaption strategies, or managing the behaviors in co-taught classroom." He linked his past experiences as a paraprofessional in an inclusive classroom to his recent experience as a co-teacher in a math class:

If you act only as assistant rather than expert, you get some of that pushback or you get some of that stigma from the kids...if you're not willing to just jump in and mess up, they're going to look at you like an assistant to your peer, not

because... The kids can think of whatever have you. It is what it is. You have to work a little harder in order to gain their trust to get it done.

David told me that it took “a lot of learning” for him as a co-teacher to expand his comfort level as a SET to support both students with SLDs and their peers without disabilities. He elaborated:

You can have a lot of knowledge from the course and other people's experiences. But once you experience it for yourself, you realize how you're going to react to things and you realize your intricacies, and that directly affects the relationship, and it directly affects how you function in that class.

He leaned his back on his chair and concluded his opinion about his willingness to move beyond his comfort zone regardless of the result: “I’m willing to go up there and fail in front of everybody.”

In summary, the participants showed different comfort levels in their area of expertise. The GETs perceived themselves as curriculum experts but felt less confident in their abilities to adapt a curriculum for students with SLDs or to manage classroom behaviors compared to the SETs in their dyads. The SETs showed a reasonable level of satisfaction regarding their knowledge of the curriculum content and were willing to improve their abilities as needed.

Theme 6: Benefits of Co-Teaching Based on Co-Teachers’ Perceptions

Interestingly, the seven co-teachers did not report any disadvantages of co-teaching. They believed co-teaching was a useful practice for all students, not only students with SLDs. Additionally, they thought their co-teaching experience in an

inclusive setting was positive compared to their solo teaching experience because they gained a lot from co-teaching.

Benefits of co-teaching for students. Both GETs and SETs agreed co-teaching was beneficial for students with and without disabilities. The benefits frequently mentioned were organized into the following themes: (a) facilitating academic access and promoting success, (b) receiving individual attention and support, and (c) responding to diversity and creating a sense of community. These themes are discussed below including the most relevant quotation for each overall theme.

Facilitating academic access and promoting success. The participants perceived that for students with SLDs, co-teaching helped them access the general curriculum and be successful. For instance, using adaptation as one of the co-teaching practices prompted students to learn the same content required of their typical peers. Melissa commented: “I believe that if we have them in a co-teaching environment that’s inclusive and we provide all the scaffolds that they need, that they should be able to be assessed at that same level that their peers are assessed at for the most part.”

When I asked Stacey about the positive outcomes of co-teaching for students, she nodded her head and responded, “Ooh. For students with LDs, I think the biggest thing is allowing them to access the grade-level material, no matter if they’re at a second grade reading level or if they’re at an eighth grade, whatever level they’re at.” She added, “Co-teaching helps to meet the state standards and prepares the students for the SAT and PSATs” and helps them “pass the class.” Stacy shared her positive experience with students in a science class by reflecting on the progress they made in the co-taught classroom: “I noticed last year when I taught the same class students have not co-taught

[classrooms] the first semester versus having co-taught the second semester did a lot better.”

On the other hand, Smith interpreted prompt success as an advantage for his students in a different way:

Co-teaching allows us to be successful, even if it's at the next level. Maybe not at the highest level. None of my kids in my classroom, minus two of them, are going to do advanced placement classes.... Growth! That's the word! They showed growth in co-taught classes.

He linked that opinion to his government class as well, saying, “It includes hard topics and requires them to make a connection and use critical thinking.” Still, he found that having two teachers with different “expertise” helped students with SLDs become “proficient enough to understand at least the basics to graduate.”

Receiving individual attention and support. Based on my classroom observations, the average number of students per co-taught classroom was 29. All of the participants reported that co-teaching reduced the teacher-to-student ratio, which reflected positively on providing individual support and attention for all students. Lillian said, “Having two adults increases individual attention to get to them to meet their needs, ask questions, and answer questions.” Smith agreed with Lillian, saying, “Having two teachers makes all students feel supported and addresses the issue of meeting unique needs, such as students with SLDs who have language barriers.” It was evident from observing all four classrooms that when the students raised their hands to ask for help, they were not ignored by the co-teachers. The co-teachers, especially the SETs, were present to provide support for any students who needed help. The individual support was

not limited to the students with SLDs but was provided to all students such as those with limited English proficiency and students who were not on task. Individual support took different forms based on the students' needs (e.g., providing feedback, translating, asking probing questions, answering questions, reading instructions, and redirecting students to be on task).

Responding to diversity and creating a sense of community. This benefit was remarkable across the four co-taught classrooms. I noticed cultural, linguistic, and academic diversity in the classrooms. For instance, the social studies class included students who spoke three different languages: English, Spanish, and Somalian. Smith commented about his experience in that class: "Even when we have those goals and those expectations, we treat each other as a family, all working together to try to get everybody through it." He added that "co-teaching creates greater social integration" among student subgroups. In terms of academic diversity, David and Ronald thought co-teaching helped students avoid the stigma associated with disabilities and that using nonhomogeneous groups as one of their co-teaching practices promoted "productive struggling," which enhanced meaningful interactions between students regardless of their disabilities. Co-teaching also increased teachers' opportunities to differentiate the instruction to meet the needs of students who were above or below grade level. Lillian said, "Co-teaching allows for challenging my students both scaffolding down or scaffolding up."

Benefits of co-teaching for teachers. The co-teachers agreed that when they had students with SLDs in a class, working with a partner had benefits. However, I noticed variation in the benefits as seen from their perspectives. The two extremes could be

exemplified as GETs felt supported by SETs while SETs felt they grew professionally by working with GETs.

General education teachers feel supported. “Feel supported” was the most frequent response GETs used to describe the benefits of co-teaching when they had students with SLDs in the classroom. However, they provided different interpretations of how and why they felt supported. This variation depended on their experiences, relationship with their partner, and area of expertise.

Melissa compared her experience of co-teaching to solo teaching. In terms of providing students individual support, she said, “When I teach by myself, it is harder to check in with individual students.” Regarding instructional pace, she said, “There’s also a difference in like how fast we move and then in the resources provided to students.”

When asked about the benefits of co-teaching with a GET, Nora, the novice teacher, responded, “I don’t know. I never really thought about that.” She stopped talking for a moment, and then said, “Just to feel supported by another person.” She described her co-teaching experience in a science class with a SET as “1000% different” than teaching the class by herself. She elaborated:

Like this one class has a lot of kids with IEPs, it's definitely hard being by yourself.... I love everything Stacey in the classroom because with that certain population of kids, I think you need a sped teacher as a support system. It allows every student to learn.

On the other hand, Smith commented on the benefits of co-teaching with a wide smile: “You know, 20 years ago if you’d asked me that as a young teacher, I’d have just

said, ‘Oh, I just want to learn,’ but really it’s the relationships that you build with these kids and teachers.” He illustrated that he felt supported:

Things like adaptation of tests and that kind of stuff, that's what co-teachers are good at, because I'm not.... That's the beauty of our dynamics of our classroom. That's why I love my girls. I don't call them my girls, but they just... We work so well together, that I'm going to hate to lose them, and I think we're going to. I keep saying that unfortunately.

Ronald had an interesting perception: he linked his personal experience as a student who was identified with SLDs to his current experience as a co-teacher. He said, “For me, I had a learning disability when I was younger. I was on an IEP, all that stuff, and I needed to be taken out of the classroom, to be tested, to do those small groups. And that big just wasn't really working for me. I needed those visuals.” He continued with a smile that he learned from the support provided by SETs:

I guess the ideal for me as a teacher is to identify which students need what and how is their disability holding them back, and with that information, how can I use that to design a lesson plan where I am teaching the content, I am teaching that rigor.

Special education teachers feel they grow professionally. The SETs believed that by working with GETs, they improved in areas in which they were not as skilled as they would have liked to be to support students in a co-taught classroom. For example, Stacey described her experience of co-teaching with Nora as follows: “I feel more knowledgeable about how to present information.” Stacey also learned how to create balance between making the needed adjustments and meeting grade level expectations.

She said if she taught the curriculum by herself, “It will be more difficult” and she imagined, “I would adjust the content to be more at their grade level. ...I would probably adjust a lot of the wording and maybe some of the math.” Further, she thought, “Nora did great job at staying with state standards and keeping it at grade level, which is really great. And they need access to that information.” Lillian also perceived co-teaching as an opportunity not only to become a better teacher for students with SLDs but “to be able to see the variety of students and their needs in a spectrum in order to find different ways to challenge students both scaffolding down or scaffolding up.”

David compared the benefits between solo teaching and co-teaching. He said “Oh, massively different. Yeah. I mean, the mindset is different.” He was thankful for working in co-taught setting because he improved his planning skills and teaching content knowledge. He expounded, “I got to get better at this planning, co-teaching for when I have paras. Because for me, as a co-teacher, I take it on myself to learn the content and watch how the teacher teaches.”

In summary, SETs and GETs agreed that co-teaching was a useful practice for all students, not only students with SLDs. They reported many benefits for them as a result of co-teaching compared to solo teaching. They also showed some similarities and differences across their responses.

Theme 7: Keys of Supporting Students with Specific Learning Disabilities in Co-Taught Classroom

The following sections highlight co-teachers’ perceptions regarding keys that contributed to the effectiveness of co-teaching for meeting the needs of all students,

especially those with SLDs. The keys derived from the interview responses included willingness, flexibility, communication, and high expectations for students with SLDs.

Willingness. Based on the documented observations, co-teachers, both SETs and GETs, were willing to provide help for all students as needed by answering questions and providing feedback. The SETs frequently mentioned “willingness” when I asked them to describe effective co-teaching. For instance, Stacey thought silently about the question for a moment and then responded, “Willingness to work as a team is one of the key factors that help to meet the needs for all students regardless of their disabilities.” Lillian stated that effective co-teaching occurred “when both teachers are committed to student learning and are willing to meet the students’ needs, whether that be with accommodating assignments or rearranging the classroom environment.” David rubbed his face and reported, “I feel like co-teaching is a matter of relationships and flexibility and willingness to learn and try things.” David claimed that GETs usually put more effort than he did into showing their willingness to work together regardless of the possible disagreements in their opinions. He elaborated based on his experience with Ronald:

I think him being the general ed teacher, it takes a lot of that willingness to give and try and be flexible and, yeah, so I hit the jackpot with that.... I work really well together because he’s willing to be flexible, and he’s willing to trust and I trust him. And when he does something that maybe I don’t totally agree with, I go with it. I’d still do it.

Flexibility. The documented differentiation techniques used by co-teachers reflected the need for flexibility in their teaching. Three of the co-teachers (two GETs and one SET) mentioned the importance of flexibility for the co-teachers to be able to

meet students' needs. Smith thought flexibility was the reason co-teaching succeeded in the school. He reported, "Most of us in this building is [sic] pretty flexible enough to make it work." David pointed out that developing effective co-teaching to support students with SLDs was challenging and likened it to maintaining a successful marriage because co-teaching and marriage both required flexible partners. He elaborated enthusiastically:

You got to be able to change on the fly. That's one of the hardest. It's just exactly like a marriage, right? And that's why some marriages don't work because everybody has to be willing to come to a consensus eventually.... You and the other person have to be flexible...it's not just about the different models of team teaching.

Ronald perceived flexibility as a core component of the definition of co-teaching, saying,

I guess you can describe co-teaching day by day. I don't think there's like one general definition of co-teaching, because one day may look different from the other day.... So it's hard for me just to give a general definition of co-teaching because each day, co-teaching is going to look different. And his responsibilities and my responsibilities will change from day to day.

Communication. The meaning of communication based on co-teachers' views was the process in which they set expectations and exchanged information, ideas, and feelings to reach a mutual understanding about supporting all students including those with SLDs. The co-teachers expressed concern about their workload and finding common time for communicating efficiently as a team. For instance, David commented

about his experience in a math class: “It’s hard to find time to do that.... We’re trying our hardest; he’s really under the gun with grading too, and I’m under the gun with all this extra crap.” Then, he continued optimistically, “But we try.” However, David and the rest of co-teachers agreed that communication played a significant role in setting expectations regarding supporting all students, strategizing about the logistics (e.g., planning, finding resources, making physical arrangements), and advocating for students with SLDs.

Co-planning. The participants indicated the importance of finding common time for setting expectations and strategizing about logistics. Smith thought co-planning was necessary to set expectations as a team on behalf of students. He shared an experience from working with Lillian:

We've actually.... Last year, we would take our common planning and sit down and say, "What do we need to do next?" We were common planning together.

But that's something we chose to do. It was not mandated by the school. We just felt it was best for us to be on the same page.

Lillian indicated the importance of co-planning and meeting after each class for debriefing and reflecting purposes: “After each class, we kind of debrief what happened, and it just kind of happens organically that we plan together. We kind of brainstorm at that point.” Melissa also confirmed the importance of ongoing communication besides co-planning to adjust the instruction and decide on logistics:

It’s really just a lot of communication that for us kind of happens right after class or in the hall right before class. Then looking at the needs of our students depending on which class period we are talking about...a lot of what we do

during this time is we talk about how the lesson went in the first period and then how we're going to adjust it, the logistics for fourth.

Stacy thought finding time was important to find common ground even regarding the physical arrangement of the co-taught classroom. She said, "The classroom was not set up this way originally. It's been really easy just because we both are pretty good on the same page of, we need to plan, we need to plan out this time."

Advocating for students with specific learning disabilities. The SETs brought up different perceptions of the communication level they thought contributed to making co-teaching effective for supporting students with SLDs. David considered communication key to advocating for students with SLDs:

When I've communicated not only to my co-teachers but to department chairs, "This is what I want to do and this is to meet the needs of the students. I'm not trying to cause you extra work, not trying to get me extra work, but we're not meeting the needs of our students." And at the end of the day that's what we're here for, to meet the needs of students.

Lillian also expounded on the importance of communication to advocate for her students and resolve conflict with the General Education Department at the school when she felt significant pushback from its department and teachers because she would like to use different instructional strategies. She said,

I've requested mediation from administrators, in order to discuss why the purpose of what I want to do, so like using templates or using study guides as notes. Or even for the Social Studies department, when a test is coming up, I request students a month before to study and complete the study guide with me, which is

something that I got a lot of pushback at first. [She continued with a smile and a confident tone] ...but when I showed the data of the difference between studying with them for a week before and studying for a month before, that's when I got approval from the department to continue forth.

Stacey also shared her experience of communicating with GETs to advocate for students with SLDs being involved in a co-taught science classroom:

At the beginning of this year it was a conversation about are we going to put our focus into reading and math because that's where our IEP goals are? The sped department was deciding this. Or is our goal to support in history and science, then they can pass those classes?... Without co-taught classes we have a higher fail rate for our science and history classes. It's more of an administration type of decision. But I definitely advocated to stay in science just because I noticed a difference with students who received that co-taught class and then passing the class versus not receiving that co-taught class and not passing.

Motioning with her hands, she said, "And that big conversation was, 'Look, we do reading in here. We do math and science and stuff.' So we're still working on those IEP goals."

Holding high expectations about students with specific learning disabilities.

Some participants felt the effectiveness of co-teaching was conditioned on showing high expectations for students with SLDs to be as successful as their peers without disabilities. For instance, Melissa believed that if students with SLDs received the appropriate support they needed, they could be as successful as their grade level peers:

The ultimate goal for the students with SLDs is that they would be able to perform and be assessed at the same level at the grade level standard who don't have IEPs. We've had a lot of discussions about, how do you grade a student who has a specific learning disability? I believe that if we have them in a co-teaching environment that's inclusive and we provide all the scaffolds that they need, that they should be able to be assessed at that same level that their peers are assessed at for the most part.

Stacey also felt like Melissa but she explained holding high expectations differently: "Let the students with learning disabilities struggle a little bit to build that stamina and then give them the support once they advocate for help."

David argued enthusiastically about the meaning of holding high expectations for students with SLDs and not measuring the effectiveness of co-teaching for students with SLDs by their passing the class. David, who identified with having a disability, commented, "I guess the ideal situation is everybody feels successful and understands how it all fits together and more than passes." He explained the importance of keeping high academic expectations when considering the low motivation of students with SLDs:

I think it's hard sometimes. The mindset is like, well, you have a disability. So if you can just pass this class, it'd be great. No, I don't want you to just pass the class. It's not just great. Would you say that to anybody? Would you say that to somebody you hired for a job? "Hey, if you can just do 60% your job, I'm going to keep paying you money." That's not going to happen. Nobody's going to do that. You're just going to get fired. They're going to find someone to do it 100% of the time. And that's what I tell kids. They're like, "Well, I just want to pass."

I'm like, "Dude, but that's a mindset that's going to get fired for the rest of your life."

David's opinion reflected the importance of encouraging students to hold high expectations about themselves and their abilities to succeed.

In summary, based on the co-teachers' views, there were four keys of supporting students with SLDs in co-taught classroom: willingness, flexibility, communication, and holding high expectations about students with specific learning disabilities. The participants' quotations were used to support their views regarding these keys.

Research Question Two

Q2 How do secondary students with SLDs perceive co-teaching practices in inclusive classrooms?

After interviewing the co-teachers, individual interviews were conducted with four volunteer students with SLDs from classrooms that were observed. In the early stages of identifying possible themes regarding perceptions of students with SLDs, I ran word frequency queries in NVivo across the transcript interviews. Figure 7 shows the frequency of words and phrases the students used throughout the interviews. However, NVivo did not replace my role as the main investigator for identifying the common themes by looking closely and in depth at the transcribed interviews and the other data sources.

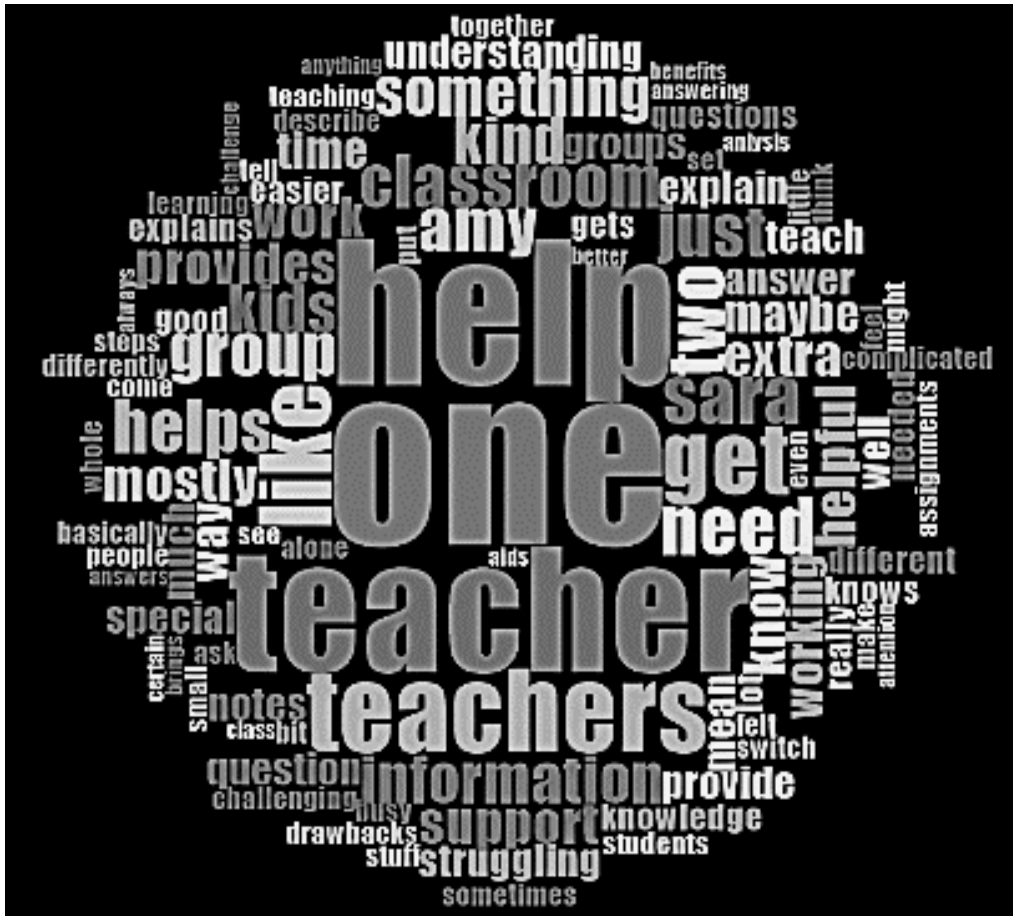


Figure 7. Visualization of word frequency across the interviews of students with specific learning disabilities.

Each interview was reviewed individually to compare responses to those of other participants' interviews and combine the responses with all relevant data gathered from observations, artifacts, and field notes. Codes were used to identify common themes and to track data saturation based on the participants' responses. The following themes emerged: (a) benefits of being included in co-taught classrooms, (b) roles of co-teachers as seen through the students' perceptions, and (c) preferred instructional strategies of SLDs in co-taught classroom. Quotes from the participants were used to illustrate each theme.

Theme 1: Benefits of Being Included in Co-Taught Classrooms

The four students with SLDs who participated in this study perceived co-teaching as a positive practice for them. They frequently used “helpful” to describe how they felt about having two teachers in the same classroom:

- I like having two teachers in one room at the same time because I feel it is helpful (Tom).
- Well, honestly, it’s helpful (Sara).
- I think it’s helpful to have two adults in the same room (Amy).
- I like having two teachers in the classroom because I get extra help.... It’s helpful (Mathew).

These students focused on themselves when they described the benefits of co-teaching without referring to the benefits for their peers. The most frequently mentioned benefits of being included in co-taught classrooms for these students were categorized by using two subthemes: (a) feeling more supported and (b) gaining a better understanding of the required content.

Feeling more supported. Although the four students agreed they “feel supported” in co-taught classrooms, they had different views of how and why they felt supported. For instance, Sara compared her experience of being supported in a solo-taught class to that of the co-taught class: “It’s more helpful because if one teacher can’t get to you, the other teacher is most likely to get to you.... If you’re stuck on something, and one teacher doesn’t know what it is, the other teacher might.”

On the other hand, Tom and Amy felt supported because they received immediate support and individual attention. Tom stated, “If I have a question on something, I didn’t get it about the lesson, David provides help without waiting until the end of the lesson.” Amy agreed: “The benefit of having two teachers instead of one is that if one teacher’s busy, then the other teacher can come to you. If you’re struggling and if one teacher’s busy, then the other teacher can come over to you. So there’s more benefit to that.”

Mathew thought that having two teachers not only allowed him to receive individual attention and immediate help “when one teacher is busy” but it also maximized his opportunity to ask further questions of both teachers: “I love it, I get extra help, and I can ask more questions from each of them.” Overall, the students felt supported because they could receive individual attention and immediate help from two adults.

Gaining a better understanding of the required content. Students with SLDs who participated in this study expressed different academic concerns regarding general education curricula. However, they agreed that having co-teachers helped them have “a better understanding.” For instance, when I observed a math class, the students worked on a quiz during the last 15 minutes of the class. Amy whispered to me, “I hate math.... It’s difficult.” During the interview, I asked her to tell me about the benefits of having two teachers and what each of the teachers did for her when she was learning in the classroom. She responded, “I think the benefit of having two teachers is we get to learn more stuff...and more understanding.” I asked her more follow-up and situational questions to obtain more specific examples but she seemed to struggle with expressing herself and she did not provide any examples. On the other hand, Tom was excited to

share his opinion. He told me he received all the required courses in co-taught classrooms, saying, “I don’t fully understand English or science” but he agreed that being in co-taught classrooms “helps to understand.” Mathew was the only student who explicitly expressed serious concern about his grade and graduation, saying, “Oh! I’m struggling a lot with a lot of subjects, and I’m thinking about my graduation.... Having two teachers in difficult classes, such as English Language Arts, helps me to have a better understanding and improve my grades.” Sara had a different perspective when I asked her what “better understanding” meant to her. She responded, “More providers to yourself. More information you could get from two teachers.”

On the other hand, I asked each student, “Are there any drawbacks to having two teachers? If so, what are they?” Interestingly, none of the students mentioned any specific challenges or shared a negative experience from having co-teachers. Sara was looking up and responded to my question: “I don’t think there are challenges or drawbacks. It’s mostly helpful to have them in there.” Amy said, “Maybe. I don’t know” and she stopped for a moment, thinking, and said, “There’s really not anything bad about it.” Mathew also denied that any drawbacks resulted from having two teachers: “No, there’s none at all.” Tom commented, “I can’t think of one.... I would say there is nothing bad about it, at least in my opinion.”

In summary, the participant students with SLDs shared only positives had come from co-teaching. However, some negatives might have existed with regard to co-teaching according to students who did not participate in this study. The participants agreed that co-teaching had given them extra attention and prompted a better

understanding of the curriculum. The following theme describes how the students' experiences in co-taught classrooms affected their perceived roles of SETs and GETs.

Theme 2: Roles of Co-Teachers

Based on their responses to the interview questions, the students seemed to clearly distinguish between the instructional responsibilities and roles of GETs and SETs in co-taught classrooms. They perceived the responsibility of the GET was to deliver the instruction and the SET was mainly responsible for providing support for all students, especially those who were academically struggling. Sara explained the roles of the co-teachers based on her experience in a social studies class: "Smith explains the lesson, and then for the girl [referring to Lillian], she helps me through it, and he makes sure the whole class gets it done, but she brings out a group and does it with us." Tom described the difference between co-teachers' roles in terms of the level of support he perceived: "Both are teachers, but one of them provides more help than the other and directs the students to be on task." Amy also focused on the supportive role of the SET but she was aware of the category of students who needed support. She stated, "Mr. David helps the special needs kids, the special needs kids that need more help to understand." Mathew had an outlook similar to Amy's but he provided more specific examples of the tasks each teacher performed. After being silent for a minute, he elaborated, "One of the jobs for Nora is to give us homework or stuff that we have been learning, and the other teacher's job [referring to Stacey's job] is to help out with students who don't fully understand."

When I asked the students what the two teachers did if a student was challenged with work, they indicated the SETs were usually more able to simplify their instruction

and more supportive compared to their dyads' GETs. Tom commented, "Even though that is helpful to have two teachers, one teacher provides more complicated information than the other. I wish to make it simple a little bit by that teacher." Amy smiled and seemed hesitant to share her experience but she responded,

I don't know how to explain. Mr. Ronald's specific job is kind of just being there as a teacher and just teaching us, I guess, kind of, and answering our questions, but the other teacher [David] answers us our questions in a more understanding way.

Mathew delivered the following opinion:

One teacher, she helps me to learn by explaining it more and another teacher, if I don't fully get it when she's explaining it to me, she'll just sit right by me and help me out. It's kind of the same thing, but I mean one provides more help though, to us.

Based on the classroom observations, the SETs mainly helped the students who were struggling academically in different ways. The recorded support provided by the SETs during my observations included reteaching, providing individual support by reading instructions, helping small groups, redirecting the students, and translating words. Based on that description, the observed co-teachers' roles aligned with the dominant co-teaching model (one teaching-and-one assisting).

Theme 3: Preferred Instructional Strategies of Specific Learning Disabilities in Co-Taught Classrooms

Different instructional practices were used by co-teachers throughout my classroom observations. The follow-up interview after each observation allowed me to

encourage students to share their opinions regarding the practices the co-teachers used. It was remarkable that the students who volunteered to be interviewed preferred collaborative strategies over working individually and they liked to use guided notes because that promoted better understanding of the instruction. The following subthemes addressed the perceptions of the students with SLDs more in depth by including quotations based on their responses in the interviews.

Group work. Different collaborative strategies were used by the co-teachers in each observed classroom. For instance, the social studies co-teachers used reading with a friend, the English language arts co-teachers used class discussion, the science team used peer support and “pair and share,” and the math co-teachers used group quizzes and assignments. All four students indicated they preferred working in a team or with a partner rather than working individually. However, they gave different responses about why they preferred group work. For instance, Amy stated, “I’d prefer to work with someone else because if I’m struggling, they’ll help me out. And if they’re struggling, I’ll help him out too. There’s mostly group working. We don’t really do that much alone.” Tom commented, “I really like to work in groups or with partners because the work can be done easily.” Mathew said, “I just feel like...feel more comfortable having a partner, so if I don’t understand something, I could ask them for help. I’ll probably ask my partner and if they don’t get it, then I’ll ask the teacher.” Sara laughed and said, “I like to work with a partner because we’ve a chance to talk and learn from each other.”

The students, except Tom, clarified the co-teachers’ role in grouping them during collaborative work. Amy was aware of her co-teachers’ expectations for the students to seek support from peers first when working in groups: “I think they help us to be in

groups. Well, they help us, but most of the time if we're in a group, they ask them to ask the other people in the group." Mathew indicated the SETs assigned the seats for the students but his interactions seeking support from his partners were a personal learning style preference rather than an expectation of his co-teachers: "I'll probably ask my partner, and if they don't get it, then I'll ask the teacher.... I feel comfortable." Sara elaborated on the different strategies the teachers used to group the students. She reported her co-teachers used a rotation of groups so "we have chances to work with different groups." But after a smile and deep breath, she added,

We're not used to choosing our groups, but half of the time, they choose a group for us, and we have to deal with it, pretty much.... Sometimes, it's based on if you're going to actually work or mess around, or it's based on because sometimes they have us pick our own groups, and then they switch it around a little bit because half of us talk, and we don't do our work. So they mostly base it on that, but sometimes they base it on like whose birthday is the same or who has the same first letter in the last name or something like that.

According to the grouping the co-teachers described to me during the interviews, Amy, Tom, and Mathew were sitting in homogenous groups and Sara was sitting in a heterogeneous group including students with SLDs who spoke Spanish. Based on the classroom observations, a pattern of verbal interactions (e.g., speech, discussion, questioning) between the students who were in heterogeneous groups occurred more than the interactions between students in homogenous groups.

Using guided notes. Two samples of guided notes were used during my classroom observation. Appendix M shows an example from a science class and

Appendices O1, O2, O3, and O4 from a social studies class. The co-teacher prepared these notes as handouts that outlined or mapped the instruction for the lesson but leave blank spaces for key information, such as words, facts, numbers, or definitions. As the lesson progressed, the students fill in the spaces with content. The students shared their perceptions of using guided notes and how using guided notes was useful for them in co-taught classrooms.

Sara faced combined struggles in her social studies class with written and verbal language struggles due to her SLDs and limited English proficiency. She commented, “I actually really like using steps and guided questions on writing things, so I know where to put things in, how to organize it, and make it look neat.” Amy was diagnosed with dyscalculia (SLDs in math) and liked using guided notes because it helped her to better process the information provided when she saw two different teaching styles:

It gets kind of challenging to have two teachers because even with having two teachers in the classroom, you basically just switch off and on with both of them to see if they can answer your question or if they have a question that you can answer or something.

She used her finger as if she pressed a button and added, “I kind of felt good, but sometimes I don’t like how the one provides information, and I like how the other one provides information differently.” She said she preferred using “extra notes” and “guided notes” to help her process the information the two teachers provided. Mathew and Tom agreed that guided notes helped them to learn the expectations of the lesson. For instance, Tom said, “I like these notes because I can focus on the main idea” and Mathew

commented, “I wish to have more guided study notes because they help me to understand the material.”

The students with SLDs in this study agreed they liked using group work and guided notes. However, they showed different reasons for their preferences. Their perspectives could be drawn based on their individually preferred learning styles and their own ways of coping with their disabilities in the co-taught classes.

Research Question Three

Q3 How do secondary students who are nonidentified with disabilities perceive co-teaching practices in inclusive classrooms?

After interviewing the co-teachers from the observed classrooms, four students who were nonidentified with disabilities were interviewed. These students had been involved in co-taught classrooms at least at the beginning of the school year (2019-20). These students were interviewed face-to-face individually.

I used word frequency queries in NVivo throughout the interview transcripts for these students. The word clouds in Figure 8 show the most used words and phrases reflected in their responses. The common themes were examined closely and in depth using Yin’s (2011) model across the transcript interviews and combining all relevant data from observations, artifacts, and field notes. The following themes described the perceptions of students who had not been diagnosed with disabilities toward the co-teaching practice: (a) the benefits of co-teaching, (b) roles of co-teachers, (c) students’ perceptions of group work, and (d) drawbacks of being in a co-taught classroom.

response reflected actions rather than just feelings. While she was adjusting in her seat, she said, “I think that’s...it really helps.”

I asked these students to elaborate on the reasons for their positive feelings toward co-teaching. All of the students indicated their feelings toward co-teaching were due to its benefits. These students conceptualized the benefits of co-teaching for them, for their struggling peers, and for their teachers. Based on the students’ perceptions, these benefits were summarized into three categories: (a) increased attention, (b) exposure to two different teaching styles, and (c) management of classroom logistics.

Increased attention. The students agreed co-taught lessons could reduce the teacher-to-student ratio, which leads to increased adult attention for all students. For instance, Tomas perceived one of the advantages of being in co-taught classrooms and having the attention of two teachers instead of one was receiving immediate support. By nodding his head, he confirmed, “Definitely the fact that you have more of an immediate response than rather having to raise your hand for 20 minutes waiting for the teacher to get done with two other students while they're trying to run around.”

Anna had a similar view to that of Tomas. Although she revealed concerns about having two teachers based on her experience in a co-taught science classroom, she admitted the advantage of being taught by two adults: “Oh. ...Sometimes it... well, it looks like it would be really hectic and chaotic, but honestly the way it feels when I do have two teachers in there, it feels way more helpful. Because when one is busy the other one can come to you and help you.”

Jones added that he not only could receive quick help without waiting but he also appreciated receiving individual help. He commented, “I like how good it is to have another teacher that can help you individually.”

The students were aware of the benefit of increased attention not only for themselves but also for their struggling peers. Sofia and Tomas considered the benefits of co-teaching in their responses more clearly than Anna and Jones. Sofia mentioned, “Some students, who may have some difficulties, they have more chances to ask questions and get help if they need it.” Tomas also asserted that having two teachers helped them to distribute attention and reach out to different groups of students who had struggles. He elaborated on his view:

Teachers can tackle a bigger group of any problem that's needed, whether it's language, whether it's just kids not knowing how to do the assignment, or not understanding the topic, are struggling to find a topic to write about. I think just because since there's another one or two teachers in the classroom, they can devote more time to someone who struggles a little more academically...you don't feel like a burden and others don't feel like that they're not getting paid attention to.

Exposure to two different teaching styles. The recorded data from my classroom observations showed each co-teacher had a different teaching style. Different teaching styles under this subtheme might have more than one meaning based on the documented observation and participants’ views. Different teaching styles might mean different ways of presenting information or addressing ideas with different perspectives. For instance, it was remarkable that across the observations, the SETs usually used direct

instruction and explicit language more often than the GETs to present the information related to the lesson. Sofia, Tomas, and Anna remarked on their teachers' different teaching styles. These students did not only recognize the difference between the teaching styles of each teacher but they also showed their appreciation of this difference and considered it an advantage in their learning.

Part of Sofia's comments regarding the benefits of being taught by two teachers included the following: "I think, for me, I can have two teachers and different styles of teaching." When I asked her to clarify the meaning of different teaching styles, she answered, "Different ways to present the information." Tomas showed his appreciation as well, saying, "Ah! Each teacher has her own way.... It gives just a wealth of knowledge because all the teachers can give you different ideas." Anna described her experience with two different teaching styles:

I feel like I have more resources.... Yeah! I feel like I can talk to more people instead of having to pile all my stuff on one person.... You would get information from two people in different ways, and then you can build off that. It's really helpful.

Based on the participants' responses, exposure to two different teaching styles did not seem to confuse students' learning processes. Conversely, they took advantage of this difference to learn better. They perceived exposure to different styles as a desirable educational experience.

Management of classroom logistics. The students thought \ co-teaching was useful not only for them but also for their teachers. Students provided different examples related to the benefits of facilitating the management of classroom logistics (handling

materials, managing instructional time, and arranging the room physically arrangement). Tomas shared his opinion about the benefits of co-teaching regarding the handling of materials: “It also is helpful for if we run out of handouts. One of the teachers can run down to the copy room and get it done while the other teacher can still continue teaching.” He added,

Yeah, they help each other. They work really well as a machine hopefully. I can't say this for every classroom with multiple teachers, but if they can work together as a well-oiled machine, they can get so many things done in such a short amount of time.

Jones thought that having two teachers allowed the pace of instruction to cover a lot of material quicker: “When it’s just like one teacher, it’s a hassle to go around, so with two...well, with two teachers, you can get a lot done.” Anna linked the shared responsibilities of grouping students by considering the classroom management to dividing the instructional responsibilities between the teachers. She said, “We get put into seating charts by teachers. I think it’s really helpful because one teacher can cover half of the classroom, and then the other teacher can cover the other half.”

In summary, the students without disabilities liked to be included in co-taught classrooms. They were aware of the benefits of co-teaching. Interestingly, they perceived the benefits of co-teaching for themselves, their peers, and their teachers.

Theme 2: Roles of Co-Teachers

In terms of the levels of authority in the classroom, the students often referred to the GET as the main teacher or leader of the class and the SET as the assistant teacher. In terms of the instructional roles, the students believed each teacher served a different

position: the GET was responsible for delivering the instruction and the SET was responsible for providing help to the GET and students as needed.

During the interviews, I asked the students, “What are the jobs of each teacher in your classroom?” After asking me to repeat the question, Jones responded, “They both just kind of do their own thing.... Mr. Ronald helps, like does the ‘do now,’ so we listen to him, and then Mr. David just helps us with all the work.” Tomas thought both teachers served “unique positions as teachers.” He immediately explained: “Mr. Smith is the head teacher. He’s the main one who teaches, and then the other teacher is the secondary teacher, but in technically, he tries to, as much as he can, get involved with her opinions.” Anna provided a similar description of Smith: “I feel like there’s a main teacher and then a side teacher, a co-teacher. The main teacher would just try to teach the class as much as they can, and the other teacher would try to support them or help them, and they can be used as resource too.”

Based on the students’ descriptions of the co-teachers’ responsibilities, the SETs seemed to often play a significant role in providing support for students who were struggling in academics, language, or behavior. Regarding academic challenges, Anna stated,

Ms. Stacy helps the students by maybe signing them up for seminars. Seminars like a study hall where the teachers can talk to them or just help them with missing work, and they will try to explain to the students more thoroughly and more explicitly.

In terms of facilitating the communication of students with limited English proficiency, Tomas described Lillian’s role in a social studies class as follows: “She also

serves as translator for some of the kids who English isn't their first language, to help them speak their own mind through their own voice." In contrast, Sofia asserted the role of the SETs was to provide support for students who showed behavioral issues. She stated, "Both teachers try to help all of the class, but absolutely I noticed that Ms. Lillian in English Art class redirects the students to be on task and helps them to show good behaviors during the class period."

Although the students distinguished between each teacher's role, they concluded their opinions by recognizing that each role was complementary of the other. Based on her experience in a science class, Anna commented, "I think that's...it really helps Nora; Stacey balances everything out too." Tomas said, "If he were left alone to teach our specific class, he would be floundering because some of the kids speak very little English, and how do you teach someone who you can't communicate with?" Sofia also showed appreciation for the SET's role in managing the English Art class: "Sometimes, it's hard to handle a lot of students, but Ms. Lillian helps Ms. Melissa to avoid distraction."

Theme 3: Students' Perceptions of Group Work

The students without disabilities shared their perceptions of group work as a common practice like those with SLDs. However, students without disabilities did not refer to the use of guided notes in their responses as did their peers with SLDs. All four students without disabilities reported collaborative work as being a decision their teachers made. The students sometimes had a chance to choose their partners during group work and sometimes it was based on their teachers' decision using the seating chart.

During my observation of a math class, Jones was sitting next to Anna. He explained how they were usually divided into groups: “We chose our seats. So, like, we usually sit with our friends or something. But sometimes, we sit with people that’ll help us, or they move us just for, so we can learn.” Anna was sitting in the front left section of the classroom and shared her desk with two students during the warm-up activity when I observed the class. She indicated her co-teachers’ use of seating charts and added, “When we get to choose our partners, there’s a lot of people that do sit by their friends.... I like to work by myself sometimes; I find it easier.” I asked her to clarify why it was easier and she responded, “In terms of I don’t have to rely on people to have to do certain things. I can just do it by myself even though it’s putting more things on you.” She concluded her opinion with a smile: “Sometimes, group work doesn’t really work out the best.” Unlike Anna, Sofia preferred collaborative work with a partner but not in a group of more than two students. Tomas thought that in different co-teaching classrooms he was involved in, dividing groups was mainly based on students’ common struggles (language barriers, writing difficulties, speaking difficulties, or different backgrounds). He perceived homogeneous groupings as a positive practice: “The leader teacher can connect through the other teachers; he, as head teacher, is able to still communicate with everyone and still make it one unified class, even though we might have some separation in within it.” Overall, the students were aware of the methods the co-teachers used to group them during collaborative work.

Theme 4: The Drawbacks of Being in a Co-Taught Classroom

Each student shared different drawbacks of being in a co-taught classroom. Anna indicated her discomfort of being included in a co-taught classroom was due to the co-

teachers' disagreements regarding behavioral management. She crossed her arms and said,

Sometimes maybe it gets really noisy and it gets real ly rowdy when people can't control themselves. ...I don't know, just that sometimes if they are teaching a certain lesson, they would have...that they would want to intervene and say something, and sometimes the teachers don't meet in the middle with that. They intersect and they don't know where to go from that part.

At the beginning of this study when I observed Anna's science class, I noticed the classroom had structure in place and the co-teachers shared the daily instruction of the students (see Appendix M). However, the co-teachers used no clear consequences for students who showed distractive behaviors, which reflected on the students' interactions, especially during group work. On the other hand, in Jones' math class, he expressed the same concern as Tomas about the pace of instruction but considering the amount of information presented, "it takes time to cover a lot of information with having two different opinions or ways to explain the equations."

Tomas also criticized the slow pace of instruction—his main concern about co-taught classrooms—especially in his social studies class. The co-teachers told me Tomas was a high-achieving student. Due to scheduling issues and classroom capacity, he was not able to be involved in an advanced social studies course. He reflected on his experience in the class I observed: "It's a little difficult at times because sometimes, at least in this specific one, since it's a multilingual classroom, we have a little bit of not only the teachers talking their own opinions on the piece, but also having to translate it...it takes time."

The social studies class involved three teachers: a SET, a GET, and a teacher who was certified as culturally and linguistically diverse. The class included students with limited English proficiency, students with SLDs, and students who fit both categories. The SET and the culturally and linguistically diverse teacher were responsible for translating and providing support at individual and group levels.

Sofia faced a combination of the problems Anna, Jones, and Tomas mentioned above. Sofia expressed her concerns based on her English language arts class in terms of the amount of information presented, the management of the classroom, and the pace of the instruction. She claimed, “Sometimes, we did not cover the whole lesson in one class period. I mean, I can finish my stuff, but running the class by two teachers slows down the instruction, but still I like it.”

In Theme 3, the students without disabilities reported that co-teaching had several benefits. However, under this theme, they believed there were some drawbacks of being in co-taught classrooms. They shared some examples of the drawbacks they faced based on their individual perceptions.

Summary

To address the research purpose for this study, classroom observations, artifacts, interviews, and field notes were used to collect qualitative data. The results of the thematic analysis of the data sources for this study yielded themes and subthemes related to the perceptions of co-teachers, students with SLDs, and students who were nonidentified with disabilities about the effectiveness of co-teaching practices when considering supporting students with SLDs. Themes and subthemes were presented to answer each research question.

Overall, the co-teachers were not given the choice to co-teach because co-teaching was a schoolwide practice. There was agreement among co-teachers about their experiences when they had students with SLDs in their classrooms but they showed variation in their comfort levels in their area of expertise. They agreed that grouping students with SLDs should be done purposefully to enhance their social and academic interactions in the co-taught learning environment. They also stated that meeting grade level expectations for high school students with SLDs was challenging. Still, they believed that using adaptation and differentiation was necessary to meet the diverse needs of students in a co-taught class. In terms of the co-teachers' level of comfort in their areas of expertise, the SETs and GETs showed clear variation. However, both SETs and GETs perceived their co-teaching experience was positive and co-teaching in general was a beneficial practice not only for students with SLDs but also for themselves as well as for students who were unidentified with disabilities. Finally, the co-teachers shared four aspects that could contribute to shaping the quality of supporting support high school students with SLDs in co-taught classrooms: willingness, flexibility, communication, and high expectations for students with SLDs. These considerations were derived from the interview responses.

For the students, students with SLDs and their peers without disabilities who participated in this study showed similarities and differences in their experiences in co-taught classrooms. Both groups of participants perceived that having two adults in the same classroom was a useful practice in general. They described the GETs as the primary teacher while the SETs were the assistants and they were aware of collaborative work used by co-teachers. Based on the input of the students with SLDs in this study,

group work beside the guided notes represented desirable strategies for them in inclusive co-taught classrooms. Unlike students without disabilities, they tended to show neutral attitudes toward these strategies. It should be noted that students without disabilities reported different disadvantages of being included in co-taught classes, e.g., the slow pace of instruction, the limited amount of the presented information, and disagreement among co-teachers. The following chapter provides a discussion of the findings of this study as they relate to each research question.

CHAPTER V

DISCUSSION

The goal of this study was to study perceptions regarding the effectiveness of co-teaching in supporting students with SLDs in a high school inclusive classroom. This chapter includes a discussion of the answers to each research question. To address the research purpose in depth, the main results for each research question are summarized first. The detailed results are then connected to relevant literature following the organizational structure used in Chapter IV. Specific conclusions to each research question are drawn with consideration to any unexpected emerging themes based on data revision. Implications of the research are then reported, mainly for how the findings could be used to inform teachers, leaders, and decision makers from the school and district level on how to support all students, including those with SLDs, using co-teaching practices. At the end of this chapter, delimitations and limitations of the study as well as recommendations for future research are provided.

Research Question One

Q1 How do co-teachers (SETs and GETs) perceive their co-teaching experience when they have students with SLDs in their classrooms?

Based on the co-teachers' experiences in the school, co-teaching was considered a schoolwide practice to support all students including students with SLDs. Overall, the seven co-teachers perceived their experiences with co-teaching students with SLDs as positive but not free of challenges. They believed including students with SLDs in their

co-taught classrooms went beyond physical inclusion to providing academic and social accessibility. The co-teachers agreed co-teaching was beneficial not only for students with SLDs but also for the other students and for themselves. However, the co-teachers' comfort levels varied in their areas of expertise to support students with SLDs in inclusive settings. The participants thought supporting students with SLDs required willingness, flexibility, communication, and high expectations from them for such students. The following sections include a deep discussion of the findings based on the emergent themes.

Co-Teaching as a Schoolwide Practice

The findings under this theme addressed why and how the participants began co-teaching in the school in which the study took place. Also, the role of school leadership in establishing co-teaching as a schoolwide practice was highlighted. No specific type of co-teaching was mandated. According to co-teachers' responses, co-teaching in classrooms including students with SLDs was not an option but an obligation required by the school administration, which directed them to co-teach in response to the inclusive education movement under the school district's supervision. The participants perceived co-teaching as a necessity to address the high numbers of students with SLDs or limited English proficiency in their classrooms. This finding was important but not surprising since the schools were under relevant laws and legislation that called for inclusive education and maximizing opportunities for SWDs to access the general curriculum. Also, increasing the number of diverse students confirmed the need for co-teaching as an inclusive practice.

Note that none of the participants discussed the idea of co-teaching in relation to RTI. If co-teaching was used as a schoolwide practice, it was recommended that co-teaching be functioned under RTI as an option for providing instructional services to students without overlooking other options along the continuum of services, e.g., consultation and instruction in separate settings. According to Murawski and Hughes (2009), ideal co-teaching exists when collaboration practices comply with IDEA (2004) and meet the RTI process goals in the LREs. Murawski and Hughes recommended that schools use tiers of instruction by implementing co-teaching models provided by Cook and Friend (1995) based on data-driven ways to support students with SLDs. Kratochwill, Volpiansky, Clements, and Ball (2007) similarly discussed co-teaching as a schoolwide practice of implementing and sustaining multitier support models.

I observed through Theme 1 the necessity of reflecting on co-teachers' perceptions in relation to the roles of school administrators to facilitate co-teaching as a broad school practice. The participants appreciated the administrators' efforts to use the master schedule to plan times teachers had in common" or "to reach times planned in common and to attend PLCs. However, none of them described or reported the leaders' school or district roles in creating a clear framework for teachers to become co-teachers, which involved official orientation programs, trainings in dyads, or meeting specific qualification criteria to co-teach. Schools need to be explicit about the process, expectations, and goals for co-taught classrooms to support all students (Keefe & Moore, 2004). Moreover, assigning teachers to co-teach should not contradict the flexibility and quality of co-teaching. As Murawski (2006) has shown, if school administrators intend to increase the chances of success in co-teaching, they must allow teachers to volunteer to

co-teach and have a voice in their partnerships. Additionally, if PLCs in their schools or districts are already in place, continuing training and discussion of successes and challenges about co-teaching and relevant practices are still needed (Conderman & Hedin, 2017).

In summary, the co-teachers in the current study affirmed by their perceptions the importance of moving away from solo teaching to support all students including those with SLDs. Under this theme and in relation to educational policy, I found and shed light on further significant dimensions of co-teaching—mainly flexibility, clarity, and quality of framework—as a broad school practice intended to prepare teachers to support students with SLDs. Schools in their future efforts must incorporate a clearer structure regarding the implementation and evaluation of co-teaching for the purpose of serving students with SLDs. It is also recommended to consider the roles of the school leadership and the importance of organizational efforts to prepare and support co-teachers.

Co-Teachers' Practices to Create an Interactive Learning Environment

The co-teachers in the current study indicated the importance of allowing students with SLDs to work in groups to maximize their opportunities for meaningful academic and social interactions. Limited interaction and academic engagement frequently appeared in the literature as challenges facing high school SWDs in inclusive co-taught environments (De Vroey et al., 2016; King-Sears, Stefanidis, & Brawand, 2019). Therefore, results under this theme entailed a broader view of group work's importance in co-taught environments to supporting high school students with SLDs effectively.

The co-teachers in this study used purposeful grouping with consideration of students' characteristics. By this method, they suggested the importance of recognizing

the social and behavioral characteristics and academic needs of students—particularly those with SLDs—in co-taught environments. High school years have been shown to be associated with substantial changes in teachers’ expectations regarding students’ behaviors, in the impacts of peers, and in the value of satisfying relations (Lane et al., 2004; Ryan, 2000). These expectations could be more complicated for students with SLDs. Several researchers found students with SLDs often showed less self-confidence and motivation to persist with academic tasks compared to their peers without disabilities (Graham & Harris, 2000; Swanson et al., 2013; Wong & Butler, 2012). Therefore, by the findings of the current study, co-teaching at the high school level should work to address the challenges of engaging all learners in the classroom. The findings of this study were consistent with the recommendations provided by Maguire (2019) in terms of high school co-teachers’ roles in shaping collaborative learning environments that increased engagement, interaction, participation, emotional safety, and academic rigor of all students.

Based on the co-teachers’ practices and perceptions, purposeful grouping seemed to be an important decision during collaborative work in co-taught classrooms. Purposeful grouping has been addressed in studies in relation to effective school and teaching practices, developing academic achievement and motivation, affecting student perceptions and attitudes toward themselves and others, and enhancing interactions and building friendships (Maguire, 2019; Slavin, 2010; Steenbergen-Hu, Makel, & Olszewski-Kubilius, 2016). According to the co-teachers in the current study, purposeful grouping could be homogeneous or heterogeneous to maximize learning and interactive opportunities for all students in co-taught classrooms.

The current study's findings indicated all students could benefit from each other through heterogeneous grouping, which occurred when co-teachers placed students with SLDs in groups of mixed abilities and characteristics. Interacting with more skilled students helped struggling students improve their skills and vice versa. The theoretical perspective supported this conclusion that interactions between individuals with different levels of abilities enhanced the whole group's achievement, provided varying levels of support, and challenged all individuals to move beyond their comfort zones (Vygotsky, 1978). The findings of the current study agreed with other studies in terms of mixed grouping in inclusive settings, which prompted students of all abilities to challenge the comfortable limits of some of their peers and allowed for an equitable experience (e.g., Maguire, 2019; Steenbergen-Hu et al., 2016). On the other hand, homogeneous grouping whereby students were placed with those of similar instructional levels and academic needs could be helpful in co-taught classrooms. The participants thought homogeneous grouping would save them time, allowing SETs to directly support students with SLDs and to work on similar materials best suited to students' needs and strengths. However, it was shown that student feelings of isolation and low expectations might lead placement of them in homogeneous groups to be self-fulfilling predictions, negatively impacting the students' reception of instruction (Maguire, 2019; Steenbergen-Hu et al., 2016). This concern might become more obvious in cases when the one teaching-and-one assisting model was used to support groups of struggling students, e.g., in the social studies class I observed. Hence, co-teachers should exercise caution in making SWDs receive instruction as if they were in a special education or a solo-taught classroom. Decision to group students with SLDs in a homogeneous or heterogeneous manner might raise the

question of whether these students were fully or partially included within general classrooms.

On account of this study's findings, I suggest making grouping decisions in co-taught classrooms carefully based on students' needs, considering the pros and cons of homogeneous or heterogeneous groupings. Moreover, there should be no objection to promoting students' selection of their own partners in some cases. Grouping students with SLDs in co-taught classrooms is still an area worth of further investigation.

Challenges Regarding Meeting Grade Level Expectations

The co-teachers in the current study expressed two concerns that compounded the difficulty of meeting grade level expectations for including students with SLDs in co-taught settings: (a) the depth of the curriculum and pace of instruction and (b) the lack of reading comprehension of some students with SLDs. Few researchers have studied the co-teaching practices on academic success of high school students, particularly ones with SLDs. Hence, the results under this theme could extend the body of literature and contribute to understanding the challenges of co-teaching at the secondary level, to considering the nature of SLDs based on co-teachers' perceptions, and to identifying the corresponding solutions.

Depth of the curriculum and pace of instruction. Slow pace of instruction was a common observation across the observed classrooms. In the individual interviews, the co-teachers revealed they felt pressured to move through all the required content at a rapid pace, which might raise concerns about the instructional validity for students with SLDs to meet state standards. The co-teachers admitted they used to slow the pace of their instruction to provide more scaffolding opportunities for struggling students. By

their concern, the co-teachers in this study supported the results of a long-term qualitative investigation conducted by Mastropieri et al. (2005). These authors focused on the challenges and practices associated with co-teaching at the secondary level and found that co-teachers' feelings of pressure to successfully teach content for SWDs could escalate because of being required to adhere to timelines proposed by the district for teaching the whole curriculum and to guidelines of high-stakes testing. Focusing on a fast pace might reduce the use of supportive practices and provision of additional review activities that could be incorporated in the curriculum, which would directly impact the role of SETs in adjusting content for SWDs in inclusive settings.

In this current study, students without disabilities reported the slow pace of instruction as one of the drawbacks of being included in co-taught classrooms. Therefore, it should be recognized that co-teachers face real challenges in meeting the needs of all students, not just those with SLDs, in inclusive settings. Focusing on the pace in moving through deep content could affect the quality of differentiated instruction for students with SLDs or without. Thus, it is crucial to have flexible timelines that enable co-teachers to put extra effort into incorporating specially designed instruction and to differ the pace in co-taught lessons when considering the needs of students with SLDs and without.

Lack of reading comprehension. During the classroom observations, SETs often read the activity instructions or lesson materials for struggling students. Based on the interview responses, both GETs and SETs reasserted that reading for understanding was a required skill for success across all academic subjects in high school. They also expressed concern about the low comprehension proficiency level of students with SLDs

compared to their peers. This concern should not be surprising because students with SLDs often experience more academic difficulties compared to their peers without disabilities, especially in reading comprehension (Fuchs et al., 2000; Lane et al., 2004; Mazher, 2019). Additionally, reading comprehension becomes more complicated for students with SLDs when they reach the secondary level because teaching of this skill has diminished and students are expected to have mastered it in preceding grade levels. Based on the interview responses, the co-teachers indicated the importance of maximizing opportunities to insert teaching on reading in secondary level education so students with SLDs might improve their comprehension skills as their peers without disabilities.

Two SETs in this study shared their attempts to address the reading comprehension gap for students with SLDs by linking their IEP goals on literacy. Lillian said,

I didn't only address accommodations.... If it's an English class, I typically pull out goals that are reading and writing goals. So, we can look at that, and then I go back and trace, is the student meeting this reading goal? Is the student able to read at grade level? Is he or she able to write a complete sentence with minimal or no grammatical errors? However, it is a little bit difficult in social studies class.

Stacey from the science co-teaching team said, "We do a lot of reading in here, and we're still working on those IEP." She thought that "providing the accommodations" for students with SLDs was key to ensuring the IEP goals were addressed in co-taught classes. Lillian and Stacey's practices aligned with recommendations from Fuchs et al.

(2015), who suggested that access to the general education curriculum should not diminish or disregard the needs of SWDs based on their IEPs.

From the findings of the current study, concerns were raised on whether instructional practices in co-taught classrooms were adequate to improve reading comprehension skills for some SWDs in secondary inclusive settings. By recognizing the challenges students with SLDs face in comprehending the general curriculum, co-teachers need to use evidence-based practices. These practices should focus on the mechanisms of comprehension instruction before, during, and after lessons. Components of such co-teaching practice include targeted and explicit teaching, classroom interactions that aid understanding of content of the texts, modeling skills and strategies used by expert readers, and teaching strategies and texts that are suitable to students' abilities. Some research findings indicated secondary students with SLDs and their peers demonstrated improvement when provided vocabulary and high-quality instruction across classes of different content areas, particularly in science and social studies (Kaldenberg, Watt, & Therrien, 2015; King-Sears & Bowman-Kruhm, 2011).

Providing Support to Make Content Accessible for All Students

The co-teachers in this study were aware of and believed in the importance of supporting all students—regardless of their identification with disabilities or without—in co-taught classes. They distinguished the use of adaptations (accommodations) as a right for students who have IEPs and viewing differentiations as a group-oriented approach to address the diversity of all students. The co-teachers affirmed the complementary roles of adaptation and differentiation in maximizing the accessibility to the general curriculum

for students with SLDs. They provided additional evidence that adaptation based on deficiencies and needs was not the only form to support students with SLDs in accessing co-taught curricula; differentiated instruction as a group-oriented support should also be used to build upon such students' strengths and interests that are similar to those of their peers without disabilities. Findings under this theme were consistent with the work of Strogilos, Tragoulia, Avramidis, Voulagka, and Papanikolaou (2017) related to the importance of understanding the development of differentiated instruction for students with and without disabilities in co-taught classrooms. Additionally, the findings of this theme supported Rush-Idigo's (2017) work related to the effects of implementing differentiated instruction in an inclusive classroom to improve student achievement. The authors of both works supported the practice of differentiated instruction to address variability in students' interests, abilities, and readiness. The diversity of learning in the current study, as evidenced by the documented differentiation in Table 6, aligned with the principles of universal design for learning. Hall, Meyer, and Rose (2015) explained differentiation in relation to the UDL principles by providing ways of representation, action and expression, and engagement. Therefore, it is recommended that co-teachers be educated about research-based differentiated instructional practices that have positive impacts on students' learning of the general curriculum.

Co-Teachers' Comfort Levels in Their Area of Expertise

In this study, GETs perceived themselves as curriculum experts but felt less confident in their abilities to adapt a curriculum for students with SLDs or to manage classroom behaviors compared to SETs in their dyads. The GETs perceived they would need to have SETs as a supportive system in adapting content for students with SLDs and

managing the classrooms. The SETs showed a reasonable level of satisfaction on their knowledge of the curriculum content and were willing to improve their abilities as needed. The perceptions of SETs and GETs in relation to their professional competence were important to understanding their co-teaching experience when they had students with SLDs in their classrooms. Strieker et al. (2013) associated co-teachers' perceptions with their self-efficacy and confidence, which would ultimately influence their teaching practices.

Expertise unique to SETs and GETs should be employed to the benefit of all students by balancing the responsibilities and strengths of co-teaching parties in a cohesive way. Therefore, variation in comfort levels between and among co-teaching team members in their areas of expertise should be recognized and complementary to each other. By referencing the co-teaching professional backgrounds as summarized in Table 1 and the co-teaching model documented during observation, different comfort levels shown by the two types of teachers would make more sense.

Teacher preparation program. The first possible reason for the variation between co-teaching parties' comfort levels in areas of expertise was the parties' types of teacher preparation programs. In this study, the SETs were certified in teaching SWDs, whereas the GETs were certified in teaching specific content knowledge. The differences in the training received by the co-teachers in their teacher preparation programs could represent the essence of a strong co-teaching arrangement; these backgrounds must be recognized in terms of what expertise each party brings to the relationship to support all students. This possible interpretation has been supported by research. In general education preparation programs, courses often had a focus on content delivery (Shin et

al., 2016), whereas SETs received more training on how to adapt content and apply interventions to meet students' needs. However, SETs often needed further opportunities to improve their instructional planning skills in subject areas to create an effective collaboration approach in inclusive settings (Shin et al., 2016; Strogilos et al., 2016). Therefore, the vital role of knowledge imparted through teacher preparation programs in shaping co-teachers' perceptions of themselves should not be overlooked. Moreover, co-teachers should use their recognized strengths and differences in an integrated way to support all students in co-taught environments.

Professional development training. The second possible reason for the variation between co-teaching team members' comfort levels in areas of expertise was co-teachers reported variation in receiving professional development training in co-teaching. However, according to the demographic profile of the co-teachers, most of them attended some training programs about co-teaching models and relevant practices to support SWDs. However, they did not attend training that targeted their area of needs with their dyads. The SETs in this study reported they were usually trained to use inclusive practices to support SWDs even though GETs often were not. Moreover, GETs and SETs who mentioned they attended training programs about co-teaching did not involve those programs as a team (with their dyads). These findings raised further questions about whether the training programs created segregation of the co-teachers' roles and discouraged them from moving beyond their comfort levels. Based on the current study and other relevant studies, for co-teaching to be effective, SETs and GETs must receive sufficient and meaningful training that targets the third area of needs so they can improve their self-competencies to support all students and not just those with

disabilities (e.g., Dieker & Murawski, 2003; Murawski & Dieker, 2004, 2008; Mastropieri et al., 2005; Takacs, 2015; Weiss & Lloyd, 2004).

Teaching experience. As shown in Table 1, the co-teaching teams at the school showed variation in their experiences of teaching, co-teaching, and co-teaching with the same partner. This variation could contribute to creating different perceptions about their comfort levels with regard to areas of expertise. Overall, based on this study and that of Scruggs and Mastropieri (2017), novice co-teachers might need more time than veteran teachers to learn how to effectively put their strengths into practice when implementing co-teaching to support all students. The SETs in this study consistently mentioned that past experiences, especially when co-teaching different grades and subjects, enhanced their confidence in content knowledge so they could co-teach and move beyond their comfort zone to support students with SLDs. However, Brown et al. (2013) thought SETs should be assigned to the content area they feel most comfortable in rather than a variety of content areas to increase their teaching proficiency level. It should be noted that SETs and GETs in this study thought repeating their co-teaching experience with the same partners increased their confidence about their abilities and roles to co-teach in classrooms that included students with SLDs. Therefore, school administrators should be urged to consider the length and type of co-teaching experiences when asking SETs and GETs to co-teach.

Co-teaching models and corresponding expectations. Finally, the different levels of comfort in co-teachers' areas of expertise might result from relying on the co-teaching model. Typically, co-teachers require commitment to every teaching model they decide to use as each model requires distinct responsibilities and expectations

(Scruggs & Mastropieri, 2017). In the current study, the dominant model used by the co-teachers was one in which one person taught and one assisted. The GETs primarily led the instruction throughout the entire period. On the other hand, the SETs played a supportive role in adapting and distributing lesson materials; they also assisted students individually as needed or prompted them to show on-task behaviors. The predominance of this model raised questions about whether it fostered real collaboration between GETs and SETs, expanded their professional comfort zone, and provided truly inclusive education as well as whether the challenges of this model hampered the effectiveness of co-teaching partnerships in inclusive classrooms (Majchrzak, 2015; Strogilos et al., 2016). Thus, when GETs and SETs were only used once or some of the time (e.g., where one taught and one assisted in the co-teaching model), their levels of confidence might be restricted to the expectations of the model and the complementary nature of their roles might be impacted.

Benefits of Co-Teaching Based on the Perceptions of Co-Teachers

Under this emerging theme, the findings showed co-teaching in inclusive settings brought benefits for all: students with SLDs, their peers, and the co-teachers. The co-teachers believed co-teaching helped to reduce the student–teacher ratio, increased individual attention for all students, facilitated academic access, and promoted success for those with SLDs. They thought co-teaching helped them respond to diversity issues, created a sense of community in inclusive settings, promoted professional growth for SETs, and created a sense of support for GETs. These benefits were consistent with conclusions drawn from the meta-synthesis of qualitative investigations by Scruggs et al. (2007a) and Murawski and Swanson (2001), which were focused on co-teaching.

Additionally, the findings aligned with the summary or synthesis of students' outcomes; teachers' attitudes, beliefs, and perceptions; and students' perceptions with regard to inclusion and collaborative models by Solis et al. (2012).

In the scope of the effectiveness of co-teaching that focused on students with SLDs, the findings of this case study extended and supported the literature on this topic. The participants used different words and phrases to describe academic outcomes such as meeting grade level standards, preparing students for statewide tests, showing growth, assessing students as their peers, and passing the class. These different descriptions of the effectiveness confirmed the complexity of understanding the effectiveness of co-teaching in qualitative investigations (Murawski & Swanson, 2001; Scruggs et al., 2007b). In terms of previous explanatory quantitative studies, the outcomes of co-teaching on SWDs were inconsistent. Cook et al. (2011) claimed co-teaching could not yet be described as an evidence-based practice for SWDs. In some studies, researchers found a moderate-to-strong positive correlation between co-teaching and improved student outcomes (McDuffie et al., 2009; Murawski & Swanson, 2001). In another study, no significant differences were found in student outcomes between co-teaching and other types of educational service-delivery models including resource rooms, pull-out programs, and mainstreamed settings (Murawski, 2006). Therefore, the findings of the current study added to existing qualitative and quantitative results about the effectiveness of co-teaching for SWDs. Moreover, the findings of this study confirmed the need for further methodological efforts to determine the meaning of effectiveness and how it could be measured.

Keys of Supporting Students with Specific Learning Disabilities in Co-Taught Classrooms

The findings of this study demonstrated that co-teachers perceived co-teaching as a relationship that required specific attributes such as showing a willingness to collaborate, flexibility in making changes, ongoing communication, and positive attitudes by holding high expectations for students with SLDs to support them effectively. These findings confirmed the description of successful co-teaching in literature that depended on SETs and GETs' dispositions to know their responsibilities and be supportive, flexible, and open-minded to change so as to support all students (Ó Murchú, 2011; Shin et al., 2016). It is worth mentioning that flexibility impacted the co-teachers' readiness to accept or disagree during planning time, decide on proper learning activities, and balance their classroom tasks (Elliott, 2014).

Through the lens of SETs in this study, communication was a necessary skill not only for planning but also to advocate for students with SLDs and to avoid or mediate interpersonal and professional conflicts. This perspective supported the relationship of using communication in relevant studies. Communication helped to adjust attitudes and to prevent or overcome professional conflicts due to differences in co-teachers' educational philosophy to support SWDs and their interpersonal skills (Carter, Prater, Jackson, & Marchant, 2009; Friend & Cook, 2013).

In terms of co-teachers' positive attitudes about the performance of students with SLDs in co-taught classrooms, quotations from Melissa, Stacey, and David under Theme 7 reflected the different expectations of these students. These expectations related to the belief in students' abilities to perform as their grade-level peers did, challenge their

abilities, expand their learning comfort zone, and pass the class with excellence. These expectations were similar to the description of the *Specific Learning Disability Guidelines* issued by the CDE (2019): “Expectations can be developed based on local norms, normative standards, criterion-based measures, peer performance, instructional standards, developmental standards, district or state assessments, and/or teacher expectations” (p. 25).

Although schools cannot control how co-teachers express their attitudes toward SWDs, successful schools and districts are responsible for addressing teachers’ attitudes by recognizing that assigning the same standards to all students is different than setting high expectations for each student. According to McNulty and Gloeckler (2011),

Many schools talk about holding all students to high standards, but they do not articulate high expectations for achievement to their struggling students. Too often, there is an attitude among administrators and faculty that students with disabilities cannot achieve at higher levels. When this happens, standards are relaxed, the curriculum is watered down, students give up or develop “learned helplessness,” and scores lag. (p. 9)

Based on the current study, differences between SETs and GETs in their willingness to collaborate, flexibility in making changes, communication skills, and expectations about students with SLDs might impact the quality of supporting these students. Given the importance of these attributes, further research and practical efforts are needed to improve them. Addressing these attributes might have a positive impact in developing existing co-teaching practices.

Research Question Two

Q2 How do secondary students with SLDs perceive co-teaching practices in inclusive classrooms?

Students with SLDs described co-teaching as a helpful practice. Based on their experiences of inclusion in co-taught classrooms, the benefits included feeling more supported and gaining a better understanding of the required content. Overall, they perceived the co-teachers' roles differently; SETs played more supportive roles, whereas the GETs were the primary teachers who led the instruction. In terms of instructional practices used by their co-teachers, they preferred collaborative work rather than working individually and they liked using guided notes during instruction time.

Students' perceptions regarding teaching practices were often overlooked in the literature (Austin, 2001), although their opinions played a role in shaping their learning opportunities, informing educators, supporting school reforms, and affecting educational outcomes (Austin, 2001; Wilson & Michaels, 2006). Although Wilson and Michaels (2006) investigated secondary school students' perceptions of co-teaching and found positive observations, they indicated further investigation was needed to better understand students' opinions regarding the effectiveness of co-teaching as a model of teaching in inclusive settings. Therefore, understanding the perceptions of secondary students with SLDs about co-teaching practices would contribute to the existing knowledge about co-teaching at a secondary level as well as help co-teachers reflect on their practices so as to provide improvement.

Benefits of Co-Teaching Based on the Perceptions of Students with Specific Learning Disabilities

The four students with SLDs agreed that being involved in a classroom with two teachers was beneficial because they could feel supported and gain a better understanding of the content. Based on the participants' experience, it was understood that these benefits resulted from decreasing the student–teacher ratio that centered on increasing the availability of immediate help and individual attention. Based on the perceptions of students with SLDs, the reported benefits of co-teaching confirmed the findings of previous researchers who focused on the advantages of co-teaching for SWDs in achieving the ultimate goal of co-teaching in inclusive settings—that is, providing all students access to and support in the general curriculum (Cook & Friend, 1995; Dieker, 2001; Murawski & Lee Swanson, 2001).

The perceptions of students with SLDs about the benefits of co-teaching could also be interpreted as aligned with their characteristics related to their disabilities. Cook and Friend (1995) asserted that SWDs often felt less motivated than their peers without disabilities and might perceive themselves as incapable of working without support in inclusive settings. Thus, it is important to provide assistance so students feel welcome and are encouraged to learn. In terms of gaining a better understanding of the required content, students with SLDs usually face difficulty progressing with the information presented in traditional, inclusive, and solo-taught settings (Vaughn, Gersten, & Chard, 2000). Based on the classroom observations in this study, it was found it was beneficial to have two teachers in inclusive settings who provided individual feedback, better monitoring of students' learning, reteaching of the content, and using individual

instruction as needed for struggling students. These practices allowed students with SLDs to process information better.

When I asked students about drawbacks of co-teaching, none of them answered this question. They only stated the benefits of co-teaching. Although I made all attempts to gain participants' trust in this investigation, students' one-sided reports about the advantages of co-teaching only created concern about the validity of their responses. This observation would be worth further investigation. There are two possible explanations for the participants' focus on the advantages rather than the drawbacks of co-teaching. One possible reason was the effect of social desirability bias, which in this case was the students' tendency to share only desirable or acceptable opinions of their co-teachers or their school culture as well as to avoid disclosing their opinions about any concerns related to co-teaching practices. Another possible explanation was the nature of individual experiences. This meant the four students who participated in this study reflected on their own unique experiences and attitudes, which might not have necessarily represented the experiences of other students who did not take part in this study. It should also be noted that students' attitudes could be affected by the structural and cultural aspects of their schools (Hwang & Evans, 2013). The highlighted reasons that might have influenced the validity of students' responses in this study indicated students' opinions are still needed in future research. Moreover, students should be encouraged to share their actual experiences about the school and classroom practices without judgment because they play a significant role in educational reforms.

It is worth mentioning that the students' perspectives about the benefits of co-teaching were limited to themselves. Their perspectives could be attributed to the fact

that the SETs were mainly responsible for providing support to the struggling students; thus, the students with SLDs felt more strongly about the advantages. This warrants further exploration. To what extent do GETs support SWDs? Addressing such a question becomes extremely critical in the implementation of co-teaching models to maximize the purposeful interactive opportunities between GETs and SWD. In this way, the benefits of inclusion and co-teaching could be realized for all students as well as for GETs and SETs.

Co-Teachers' Roles Based on Perceptions of Students with Specific Learning Disabilities

The students with SLDs perceived the SETs as assistants of the GETs and struggling learners, whereas the GETs were perceived as the primary teachers responsible for teaching the lesson to the whole class. This finding aligned with the theme of previous research on co-teaching—that is, the GETs are leaders of the instruction and content specialists, and SETs often played the secondary role (Dieker & Murawski, 2003; Friend & Cook, 2010; Majchrzak, 2015; Mastropieri et al., 2005). The students distinguished between the co-teachers' authority and responsibilities to show one taught and one assisted. The one teaching-and-one assisting model has the potential to become the most common co-teaching model used based on the observations and interviews. Compared to other models, the one teaching-and-one assisting model might not require the co-teachers to communicate and plan intensively (Scruggs et al., 2007a) but it has the disadvantage that it might affect students' perceptions. Students might ask about the co-teachers' authority in a classroom where the SET continued to undertake the lesser role (Cook & Friend, 1995). Therefore, it is recommended that SETs collect field notes about

the academic or social behaviors of a group of students or the class as a whole. Also, the GET should interact more with the struggling students by providing constructive feedback and individual help as needed.

Preferred Instructional Strategies of Specific Learning Disabilities in Co-Taught Classrooms

Interestingly, the four students who participated indicated they preferred group work to working individually. They also liked guided notes because these notes helped them better understand the content. It should be noted that the findings from this study could not be generalized as a preferred instructional strategy for every secondary student with SLDs across all co-taught settings because “Students differ in their abilities, interests, and background knowledge, and in their learning styles. Students may have preferences about how to learn, but no evidence suggests that catering to those preferences will lead to better learning” (Riener & Willingham, 2010, p. 35). However, the findings under the current study’s theme gave dimension to co-teachers’ instructional decisions in inclusive settings. These decisions considered the use of strategies that matched the secondary students’ preferred learning styles, characteristics, and abilities to learn. This perspective was supported by Billingsley, Thomas, and Webber (2018) and Landrum and McDuffie (2010) who called for the importance of considering students’ preferred instructional strategies so teachers could understand how the students learned best. This consideration could be more significant for students with SLDs at the secondary level so they could reflect on how they learned best, advocated for themselves, and developed their self-determination skills, which are abilities needed to succeed at the postsecondary level. In the following sections, I address group work and guided notes as

preferred instructional strategies for participating students with SLDs in co-taught classrooms by considering the relevant studies.

Group work. Peer support, group discussion, and working and reading in small groups were the most documented group work strategies in the observed co-taught classrooms. These examples of group work were consistent with former studies focusing on collaborative strategies as an intervention for students with SLDs (Swanson, 2008; Vaughn et al., 2000) and researchers who have focused on co-teaching cases as a widespread school practice (Dieker, 2001; Morocco & Aguilar, 2002). Regarding current study, the students with SLDs described feeling supported and comfortable working with others, and these reasons addressed corresponding characteristics of students with SLDs.

Students with SLDs usually feel less motivated and capable of working by themselves compared to their peers without disabilities and, at the same time, they might not have sufficient confidence working in classrooms with a large number of students due to a lack of social skills (Cook & Friend, 1995). Therefore, in this study, I supported the advantages of using group work mentioned in the literature. Researchers found that group work is a valuable opportunity for students to reveal their abilities, examine their ideas, receive support, gain a diverse level of learning to meet their needs, achieve more, and improve their social and cognitive skills (Moin, Magiera, & Zigmond, 2009; Swanson, 2008). Finally, reporting group is a preferred strategy for students with SLDs in co-taught classrooms in this study. Moreover, there was research evidence of the effectiveness of group work, which maximized co-teachers' responsibility in planning and implementing group work carefully to meet students' social, cognitive, and academic needs and characteristics.

Guided notes. Based on the students' descriptions, the collected examples of guided notes included handouts with blank spaces. As the lessons progressed, the students were asked to fill in the spaces with key information such as words, facts, numbers, or definitions. In Chapter IV, quotations under the subtheme of using guided notes addressed the second research question as students with SLDs provided different reasons as to why they preferred guided notes. Sara was an English language learner and she liked guided notes because they helped her organize her ideas, especially in her social studies class. Amy thought guided notes helped her address confusing issues and her difficulties processing information provided by the two teachers in her math class. Mathew and Tom agreed that guided notes helped them learn the lesson's expectations.

Students' opinions about using guided notes were supported by research findings focused on their effectiveness in inclusive settings. Boyle, Forchelli, and Cariss (2015) showed that guided notes had a positive impact on students with and without disabilities, students at at-risk, and English language learners. Also, guided notes could be used to review the material, set a foundation for new lessons, and complete assignments and prepare for exams (Boyle et al., 2015). In a systematic review of research between 1980 and 2010 on note-taking techniques for content-area subjects among students with SLDs, Boyle and Rivera (2012) revealed the most effective instructional approach for students with SLDs in the secondary level was guided notes. The researchers used either the effect size or percentage of nonoverlapping data to evaluate the effectiveness. The main outcome variable of the interventions in this systemic review was the academic performance measured by an exam, test, or quiz as well as the quality and quantity of the notes recorded.

Given the significant functions and the effectiveness of the guided notes for secondary students with SLDs, co-teachers could use this technique to address the challenges reported under Theme 4 of research question one (Meeting Grade-Level Expectations is Challenging). Therefore, they should plan to present their instructions clearly so as to introduce and organize the new ideas carefully as well as to create opportunities for students to be active learners by responding to the relevant questions and receiving constructive feedback. Additionally, teachers are recommended to use guided notes along with other evidence-based practices such as graphic organizers including but not limited to Venn diagrams, matrixes, concept diagram, and Web words (Alber & Heward, 2000; Konrad, Joseph, & Itoi, 2011). Moreover, co-teachers need to recognize that guided notes should not replace their role as a main guide to teach students with SLDs because these students who are close to graduating need to master notetaking on their own to be successful in their postsecondary education.

Since examining the effectiveness of co-teaching at the secondary level is a complicated and broad topic, the findings of the second research question might add a unique dimension to the existing research and practices related to co-teaching. The views of students with SLDs about the benefits of co-teaching, co-teachers' roles, and the use of instructional strategies might give insight to scholars to narrow the meaning of the effectiveness of co-teaching. Co-teachers might also use students' input to reflect on their practice concerning a specific group of students who represent the highest population of SWDs.

Research Question Three

- Q3 How do secondary students who are nonidentified with disabilities perceive co-teaching practices in inclusive classrooms?

The findings showed students without disabilities enjoyed being included in co-taught classrooms. They thought that having two teachers in the same classroom helped them and other students receive more attention. Also, they could immediately respond and expand their knowledge due to their exposure to two different teaching perspectives. They also thought the co-teachers helped each other manage the classroom logistics. Overall, the students without disabilities believed the co-teachers' roles were complementary but they distinguished each teacher's instructional authority (e.g., SETs assisted the GETs, the lead teachers). In terms of instructional practices, the students were aware of the co-teachers' methods and reasons for using groups but unlike students with SLDs, they did not consider group work a preferred strategy. The participants reported three drawbacks regarding co-taught classrooms: the slow pace of instruction, the limited amount of information covered, and disagreements between co-teachers in managing behaviors.

The highlighted findings were important. Based on the extensive investigation on co-teaching, the main purpose of co-teaching is to support all students, not just those with SWDs, in inclusive settings (Austin, 2001; Friend & Cook, 2010; Mastropieri et al., 2005; Morocco & Aguilar, 2002). Therefore, the perceived benefits of co-teaching practices from secondary students without disabilities should not be overlooked because they parallel those perceptions of students with SLDs and add to the existing body of knowledge. The following sections include some observations and comparisons related to co-teaching practices and the perceptions of students with SLDs so as to provide a better insight into the purpose of this study and further investigations.

Benefits of Co-Teaching Based on the Perceptions of Students Without Disabilities

The benefits of co-teaching based on the participants' views were summarized to increased attention, exposure to two different teaching styles, and facilitate management of classroom logistics. The participants provided different examples of how co-teaching helped the two teachers manage the logistics such as handling lesson materials, distributing the instructional responsibilities, and covering the content at a quick pace. This variation in the examples might be a result of the variation in co-teaching experience these students were exposed to and the different levels of collaboration shown by the SETs and GETs.

It is worth mentioning that unlike the benefits of co-teaching based on the perspective of students with SLDs under the second research question, students without disabilities perceived the benefits of co-teaching for themselves, their struggling peers, and the co-teachers. The views of students without disabilities aligned with and confirmed relevant studies that showed co-teaching had advantages for both students with and without disabilities as well as for the co-teachers (Friend & Cook, 2010; Rice & Zigmond, 2000; Scruggs et al., 2007a).

Roles of Co-Teachers Based on the Perceptions of Students Without Disabilities

The students without disabilities believed in the complementarity of their co-teachers' responsibilities. However, they distinguished between the authority of the co-teachers in the classrooms. They believed the GETs were the leading teachers, while the SETs were assisting teachers who supported students with academic struggles and those

with limited English proficiency. Students' descriptions were similar to the perceptions of students with SLDs and aligned with the common description of the co-teaching model observed (one teacher, one assistant). According to Cook and Friend (1995), this model gave the teacher leading the lesson, in this case the GET, more authority than the teacher assisting (SET) in the classroom, which led to an unwanted imbalance of power in the classroom in the views of both the students and the teachers. A further question that arose was were the co-teaching models in play on days when I did not conduct classroom observations? Whatever the answer to this question, the findings suggested encouraging co-teachers to carefully plan and implement co-teaching models to balance their roles and power.

Group Work Based on the Perceptions of Students Without Disabilities

While the students with SLDs in co-taught classrooms perceived group work as a preferred instructional strategy due to it meeting their needs, students without disabilities addressed group work from a different point of view. Students without disabilities seemed to be more aware of the way of and the reason for dividing them into groups than their peers with SLDs. Jones and Anna pointed to the use of the seating chart by their co-teachers. They thought the goal of placing students in a certain way during collaborative work was to increase their productivity and learning. Sofia and Tomes thought their co-teachers grouped them based on common areas of needs to help the co-teachers manage the classroom and distribute their instructional attention. The students' descriptions of grouping strategies aligned with the idea of using purposeful grouping based on the co-teachers' perceptions under the first research question. As a side note on the perceptions

about group work in co-taught classrooms, Tomas and Anna shared interesting perspectives worth discussing.

Tomas shared his experience in social studies class. He showed his appreciation for the SET's effort to support students grouped based on similar English proficiency or academic struggles. However, he realized that a sense of segregation could exist due to the use of homogeneous grouping supported by SETs. Tomas' perception confirmed the limited interactions that occurred during the classroom observation of the groups supported by the SET (Lillian). Based on the co-teachers' perceptions in this study and findings from Steenbergen-Hu et al. (2016), homogeneous grouping prompted teachers to provide personalized instruction that fit the students who had similar characteristics. However, the limited interactions recorded between and among students, considering Tomas' opinion, generated questions worth reflection on the disadvantage of homogeneous grouping. Does inclusion exist in co-taught classrooms when struggling students are grouped homogeneously? If this grouping is needed, how can co-teachers maximize interaction between and among all students? To what extent are students without disabilities, such as Tomas, aware of diversity, inclusion, interaction, the struggles of their peers, and sense of belonging in co-taught classrooms?

On the other hand, Anna was not interested in working in groups: "I like to work by myself sometimes; I find it easier." She elaborated, "I don't have to rely on people to have to do certain things. I can just do it by myself even though it's putting more things on [me]." Group work based on the perceptions of students without disabilities has been addressed differently, which raises questions for further investigation regarding group selection. Group work is an important strategy to improve students' social and academic

skills (Moin et al., 2009; Swanson, 2008) and a common theme in co-teaching cases (Dieker, 2001; Morocco & Aguilar, 2002). However, Anna's perception should give co-teachers insight into the role of co-teachers to enhance the underlying values of collaborative work and grouping arrangements in inclusive settings. Additionally, her perception should lead co-teachers to be aware and cautious that group work in co-taught classrooms is not perfect for all students at all times. Moreover, it is important to provide options for students to work individually or with a group. If group work is a classroom-wide practice that all students should commit to, in some cases, students should at least be given the right to select their partners.

Drawbacks of Being Included in Co-Taught Classrooms

Whereas students without disabilities expressed that they enjoyed being in co-taught classrooms, they mentioned some drawbacks: the disagreement between co-teachers in managing students' behaviors and the slow pace of instruction with the limited amount of information. Although the examples of drawbacks were individual examples that could not be generalized, aspects of these examples merit reflection on the relevant practices and drawing corresponding conclusions.

Disagreement in managing students' behaviors. Anna described the disruption and disagreement between the co-teachers in managing student behaviors as one of the drawbacks she faced in the science classroom. Anna's concern was consistent with what was observed in the context of this study. During my observation of the co-taught science classroom, the majority of students showed off-task behaviors such as wandering around the classroom and leaving their group work before completing the required task. During the interviews, the co-teaching team (Stacey and Nora) expressed the difficulty of

managing their class. Referring to the first research question, Stacey and Nora showed variation in their confidence levels in terms of managing students' behaviors. A possible reason for the disagreement between the co-teachers in managing student behaviors is the length of their teaching experience together as partners. Regarding the demographic characteristics of the science co-teaching team as presented in Table 1, this team had one year of teaching experience together as partners, which might have affected their ability to find common ground in managing the classroom. This explanation was supported by Mastropieri et al. (2005) who stated that disagreement between co-teachers could occur due to the little time teachers had worked together. This suggested the importance of agreement on the discipline system in co-taught classrooms and considering experiences and backgrounds when assigning co-teachers.

Slow pace of instruction and limited amount of information. Sofia, from the English language arts class; Jones, from the math class; and Tomas, from the social studies class, expressed the same concern about the slow pace of instruction and limited amount of information covered when in co-taught classrooms. This observation should not be surprising because the co-teachers of these classes shared their concern about the pressure they faced with the pace of instruction and depth of the curricula. This challenge forced co-teachers to use a lot of scaffolding strategies that slowed down the pace of their instruction in the large classes that included diverse learners and a high percentage of students with SLDs. The views of students without disabilities about the slow pace of instruction gave further insight that some students might not be challenged enough in co-taught classrooms. The co-teachers in this study and other studies felt pressure or did not want to differentiate their instruction due to more preparation time

being required (Magiera & Zigmond, 2005; Murawski & Dieker, 2004). Therefore, more efforts are needed to create flexible schedules that allow co-teachers to co-plan and think of creative ways to differentiate the pace and the amount of presented content to meet the diverse needs of all students, not only struggling students.

Recommendations for Implementation

The findings of this study offered ideas to improve co-teaching instructional practices at the secondary school level. The following sections include specific recommendations that might guide and facilitate the efforts of stakeholders at the district and school levels in using co-teaching as a schoolwide practice. These suggestions would benefit all students including students with SLDs, SETs, and GETs in co-taught inclusive settings.

Develop Procedural and Evaluative Framework for Co-Teaching

The findings of the current study suggested co-teaching should be a schoolwide practice to support all students, not only those with SLDs. Co-teaching is one of the instructional practices that complies with the policy and legislation that calls for inclusive education and diversity responsiveness. The findings also indicated that effectiveness of co-teaching for students with SLDs in particular could not be measured based on individual perceptions and experiences.

Co-teaching applications might take different forms in different classrooms in the same school. Therefore, there is a need to be aware of similarities and differences in these applications and consider ways to ensure their successful implementation. Therefore, further organizational efforts at the district, school, and classroom levels are needed to establish a cohesive evaluative and procedural framework that considers the

nature of challenges related to co-teaching, secondary education, and individual needs of students with SLDs. The ultimate goal of this framework was to contribute to improving the performance and willingness of co-teachers, which is reflected in the success of all students.

At the district level, it would be beneficial to develop and test the framework to formalize evaluations and determine the effectiveness of co-teaching for all students, particularly those with SLDs in relation to the RTI. Moreover, there is a need to provide ongoing and meaningful orientation and professional development training programs and compel the co-teaching dyads to attend synchronously. The topics of these programs should be based on an inventory or survey of the needs of SETs and GETs such as implementing co-teaching models, addressing IEP goals in inclusive settings, and using evidence-based practices to expand the level of teachers' expertise and complement their roles.

At the school level, to maximize opportunities for co-teaching success, principals need to facilitate procedures related to (a) identifying common school goals and expectations; (b) giving teachers a voice in selecting their partners; (c) promoting opportunities for teachers to learn about their dyads; (c) considering the variation of teachers' experiences; (c) creating common rules and routines for classroom management; (d) setting consistent time for co-planning, reflection, and involvement in PLCs; and (f) using a flexible but objective evaluation process for students with IEPs.

At the classroom level, co-teachers should set clear and reasonable expectations for them and for their students with SLDs in inclusive settings. Then they need to identify an appropriate and comprehensive evaluation method including formative,

summative, formal, and informal tools as indicators to reflect on students' progress toward their individual goals and curriculum expectations. The evaluation process would be more efficient if students with SLDs were involved in the process and reflected on their progress toward their goals.

Stakeholders at the district, school, and classroom levels might argue that these actions are already in place. However, these actions should be implemented within an explicit framework considering the views of students and co-teachers. The hope of this suggestion is to develop a new framework or revise the existing framework to show more obligation, authentication, merit, and accountability of the use of co-teaching for all students including those with SLDs.

Partnership and Supporting the Mind-Set of Professional Growth

This study suggested that co-teaching is not only placing two teachers in the same classroom; rather, the core of it is a partnership to achieve the ultimate goal: meeting the needs of all students in inclusive settings. The SETs and GETs who are looking to support students with or without SLDs effectively should use “we” instead of “I” and “our students” versus “your students.” In other words, effective co-teaching requires not separating roles based on specializations and disabilities.

The findings of this study suggested that effective co-teaching depended on a willingness to blend SETs' and GETs' areas of expertise and use them complementarily. Respecting the differences in their expertise, they should take the advantage of working together to learn from each other. The SETs and GETs should perceive co-teaching as a chance to grow professionally. Supporting the mind-set of professional growth could be

shown by recognizing their strengths, determining areas for improvement, and moving beyond their comfort zone by using different co-teaching models, trying new strategies, disclosing concerns, and continuously reflecting on the data.

**Maximizing Learning and Interaction
Opportunities by Using Purposeful
and Flexible Grouping**

The findings of this study confirmed that for students with SLDs, the importance of perceiving co-taught classrooms was more than just physical inclusion. It was shown that instructional decision-making by the co-teachers regarding the use collaborative work and grouping students purposefully represented common practices to maximize the effectiveness of including students with SLDs in co-taught classrooms. The overuse of the one teaching-and-one assisting model under the pretext of providing small group support by SETs to students with SLDs could create unintentional segregation, resulting in limited academic and social interactions with their peers. This decision should be sensitive to the needs of all students, not only students with SLDs, in creating a welcoming, interactive, productive, and challenging learning community. Moreover, grouping decisions should help balance the instructional responsibilities of SETs and GETs by considering an appropriate co-teaching model. The idea of purposeful grouping should not interfere with the flexibility to change groups as needed. It would be beneficial, particularly for students with SLDs, to occasionally change groups and be given the choice to work with peers with whom they felt comfortable or who could challenge their abilities to improve their motivation and social and academic skills.

Addressing Individual Goals in a Manner Consistent With the General Curriculum

Meeting grade-level expectations and addressing IEP goals becomes more challenging for teachers of secondary students with SLDs in co-taught classrooms. It should be noted that providing accommodations or adapting the content is necessary to meet the needs of students with SLDs in co-taught classes. However, providing accommodations or adapting is not the sole and most effective way to bridge the gap between the current level of students with SLDs and expectations of the co-taught curriculum. Secondary students with SLDs often show a lack of reading comprehension and co-teachers need to cover the curriculum within a specific time. However, these obstacles are not impossible to address. The SETs with GETs need to show more efforts and creativity by using evidence-based practices implicitly across the content areas. The findings showed some examples of evidence-based practices were used along with differentiation techniques such as reading in small groups, peer support, feedback, using graphic organizers, modeling and examples, the teach–reteach method, guided notes, explicit instruction, and reading aloud. Co-teachers are also responsible for creating, planning, and exploiting any learning opportunity to address students’ goals tacitly with the standardized curriculum. Overall, it is recommended that co-teachers address IEP goals of students with SLDs in a manner consistent with the general curriculum by using evidence-based practices and differentiation techniques rather than focusing on providing accommodations.

Giving All Students a Voice in Their Learning Is Important

The variations and similarities between and across the opinions of students with SLDs and their peers without disabilities about co-teaching and relevant practices must be taken into account. Students' perceptions help co-teachers reflect on the quality of their practices and to what extent they change their teaching strategies to meet the varied needs of learners in inclusive settings. Moreover, co-teachers should realize that giving students the chance to select their preferred learning strategy is consistent with the principles of differentiation and the universal design of learning in inclusive settings. Moreover, giving students the chance to select their preferred learning strategy is not against the idea of individualizing or adapting instruction. Giving secondary students, especially those with SLDs, chances to make decisions regarding how they learn best is important. It is recommended that co-teachers balance their instructional decisions as experts and students' individual choices based on both their strengths and areas of need to develop their self-advocacy and self-determination skills needed to succeed in their postsecondary education.

Delimitations and Limitations

The findings of this study must be interpreted with caution due to a number of delimitations and limitations. The audit trail I used as one of the trustworthiness techniques helped me to continuously self-reflect during the research process. This technique allowed me to look critically at the choices I made as a researcher as well as at the conditions or influences I could not control, but it placed restrictions on my methodology and conclusions. The delimitations of this case study were the setting, the

method of selecting participants, and the observations in relation to the phenomenon of the study.

This study took place in one high school, which is located in one of the school districts in Colorado, and it was purposefully selected. In terms of the participants, they had to have experienced co-teaching in inclusive classrooms to be included in the study. In addition to meeting the selection criteria, participants were given the voluntary right to be part of the study. I believed this selection technique could provide them with a better chance to have an open discussion about their experiences. However, I acknowledge that the participants did not represent the perceptions of all students and co-teachers across different grade levels and content areas who were not involved in this study.

In terms of the observations, when I defined the methods by which I was going to collect data, I decided to conduct one observation for the whole class period for each co-teaching team who agreed to participate. I think more observations could be useful to gather more data and to capture what really happened in co-taught classrooms. I cannot say for sure but I hypothesize that if I had conducted further classroom observations, I would have documented different co-teaching models, instructional practices, and more interactions among students with SLDs, their peers, and co-teachers. Another consideration is to what extent the participants felt comfortable while I was sitting in the back of the class and collecting data. I tried not to be in an intrusive position in the classrooms but it is possible the short time I spent with the co-teachers before the observations impacted their behaviors or even the students' behaviors. During most observations, it appeared to me that some teachers and students were worried about having me in the classroom. Interestingly, four co-teachers asked during the interviews if

what they were doing was what I expected them to do while co-teaching and working with the students. This could explain why most of the interactions I observed were conservative and limited and focused more on supporting struggling students. On the other hand, some students asked me during the interviews if I wanted them to respond to the questions based on their experience in the classrooms that I observed or based on their experience in general. This inquiry indicated the possible effect of the social desirability bias on the participants' opinions. In other words, some students could have over-reported opinions that matched values considered socially acceptable and under-reported those considered socially undesirable by their co-teachers, their school, or society in general.

Aside from the above limitations, one main concern related to the nature of the research design was the lack of generalizability of the results: a case study bounded by one school (Yin, 2011). The other two concerns were the limited time to conduct the research and the participants' personal experiences, feelings, or attitudes regarding co-teaching as an effective model to support students with SLDs and their peers in highly inclusive classrooms. These limitations could not be controlled by me as a researcher. However, in the following section, I discuss some possible ways to overcome some of the highlighted limitations in future studies.

Recommendations for Future Research

Further investigation on the effectiveness of co-teaching to support students with SLDs and without disabilities is needed. Specifically, replication of this study is recommended to address the limitations of the research design and methods used. As stated earlier, this case study was bounded by one high school and the perceptions were

limited to the students and teachers who participated voluntarily. It would be beneficial to conduct this study in different secondary schools and districts to extend the body of literature on co-teaching at the secondary level. Practitioners and decision makers would benefit from more experience by including different voices of students and teachers. Future researchers should also replicate this study by using a more convenient and flexible timeline that would promote conducting further classroom observations to capture in-depth specific practices related to different co-teaching models and social and academic interactions.

The findings revealed the need for in-depth exploration of how co-teaching becomes a schoolwide practice to support all students including those with SLDs. The participants' perceptions led to more specific questions that merit exploration such as how effective co-teaching could be developed to meet the needs of all students considering the challenges at the secondary level and uncontrollable factors such as individuals' attitudes. District leaders, school principals, and co-teachers would benefit from additional inquiry regarding the creation and testing of an explicit framework to formalize evaluations and determine the effectiveness of the co-teaching models for all students. Therefore, future researchers might examine the selection criteria of co-teachers and training with peer-influencing strategies, such as PLCs, to enhance the commitment and willingness of the SETs and GETs to blend their areas of expertise and share their instructional responsibilities for all students.

Based on the findings of this exploratory study, I suggest narrowing the meaning of effectiveness of co-teaching with considering the co-teaching models for students with SLDs in future studies. More methodological efforts are needed to identify the

procedural definition to robustly measure the effectiveness of co-teaching and relevant practices for the academic achievement of students with SLDs to bridge the gap between their IEP goals and grade level standards. Further analysis and exploration of the impact of relevant co-teaching and inclusive practices, such as grouping arrangements, co-teaching models, collaborative work, and differentiation across content subjects in co-taught classes is necessary. Given the importance of reading comprehension skills to the success of students with SLDs at the secondary level in co-taught classrooms, I suggest further investigation is needed to examine evidence-based practices in co-taught environments to address these skills. To advance the body of literature, researchers should consider the effect size by examining the relationships between the co-teachers' instructional practices and students' performance. Thus, future researchers should focus on using experimental groups or a mixed method research design to set the stage for co-teaching to become an evidence-based practice to support secondary students with SLDs in inclusive classrooms.

Conclusion

Including students with SLDs and using co-teaching in schools are no longer controversial topics. However, the effectiveness of using co-teaching to support these students in inclusive secondary classrooms still represents a work in progress. In this case study, the effectiveness of co-teaching practices was examined based on the perceptions of seven co-teaches, four students with SLDs, and four students without disabilities from a high school located in Colorado. Classroom observations, artifacts, and follow-up, semi-structured, individual interviews were used to address the research purpose in depth. Syntheses of the findings from these multiple data sources gave a

broader dimension to understand the effectiveness of co-teaching practices through the eyes of co-teachers and students. Additionally, the findings revealed corresponding challenges co-teachers faced across different content areas from the same high school.

Overall, the findings indicated that co-teachers, students with SLDs, and students without disabilities perceived co-teaching positively based on their experience in the school. However, the message that could be taken from the perceptions of the participants was the effectiveness of co-teaching could not be addressed as a phenomenon by itself. Co-teaching is not straightforward to separate it from the study of other contextual and practical aspects. These aspects include grouping strategies, instructional practices, co-teachers' roles, and challenges of secondary education that overlap with co-teaching models and individual characteristics such as areas of needs, strengths, feelings, and attitudes. The variation and similarity between and across the views of co-teaching teams, students with SLDs, and students without disabilities about these aspects confirmed the complexity of understanding the effectiveness of co-teaching at the secondary level. Although this exploratory case study gave a snapshot of how investigating the effectiveness of co-teaching practices when students with SLDs are included in inclusive settings was so complicated, it confirmed it as a goal worth pursuing.

Based on the participants' perceptions, co-teaching is a path to meet the needs of heterogeneous learners, including students with SLDs, in inclusive settings. School and district leaders, teachers, and researchers still need to continue working on specifics regarding identifying critical components of effective co-teaching while considering the substantial characteristic of students with SLDs and their peers and the nature of

challenges of co-teaching at secondary levels. Giving voices to co-teachers and students with the alignment of school and district philosophies and purposes of co-teaching contribute in the establishment of a high-quality co-teaching framework. This framework should include providing relevant professional development to teaching partners. This framework should also ensure using evaluation suitable to help co-teaching pairs grow professionally so each co-teacher would provide pieces of the puzzle necessary to making co-teaching optimally effective. Such a framework could help support student learning and to bridge the gap between their individual goals and grade level standards.

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APPENDIX A

PERMISSION FROM THE SCHOOL PRINCIPAL

August 28, 2019

Dr. [REDACTED]
Assistant Superintendent of Academic Achievement
[REDACTED]

Dear Dr [REDACTED]

I give permission for Aeshah Alsarawi, a doctoral student from the School of Special Education at UNC, permission to conduct research into our Co-Teaching protocols and applications at [REDACTED] High School. She has shared with me a copy of the summary of her proposal and copies of consent and assent forms to be used in the research process.

I look forward to her observing and working with our Co-Teaching educators here at the [REDACTED]

Sincerely,



[REDACTED] Principal
[REDACTED] High School

APPENDIX B
PERMISSION FROM SCHOOL DISTRICT

September 5, 2019

To: Aeshah Alsarawi
University of Northern Colorado
RE: Research Request

Dear Aeshah Alsarawi,

District [REDACTED] has approved your application to conduct the research project entitled *Perceptions Regarding the Effectiveness of Co-teaching to Support Students with Learning Disabilities in Secondary Inclusive Classrooms: Case Study*. We look forward to hearing the results of the study when you are finished.

Sincerely,

Assistant
of Acaden

APPENDIX C
INSTITUTIONAL REVIEW BOARD APPROVAL



Institutional Review Board

DATE: September 19, 2019

TO: Aeshah Alsarawi

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1483101-2] Perceptions Regarding the Effectiveness of Co-teaching to Support Students with Learning Disabilities in Secondary Inclusive Classrooms: Case Study

SUBMISSION TYPE: Revision

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: September 19, 2019

EXPIRATION DATE: September 19, 2023

Thank you for your submission of Revision materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX D

**INITIAL CONTACT WITH THE SCHOOL
PRINCIPAL VIA EMAIL**



UNIVERSITY OF
NORTHERN
COLORADO

Dear (school principal's name),

My name is Aeshah Alsarawi, a doctoral student from the School of Special Education. The research I wish to conduct for my dissertation involves the exploration of the practices and perceptions regarding co-teaching to support students with learning disabilities in secondary inclusive classrooms. This project will be conducted under the supervision of the University of Northern Colorado. Ideally, I am looking for up to four classes that each include two members of a co-teaching team, one student with a learning disability, and one student who is nonidentified with a learning disability. Those four individuals from each class would be target samples of my study. The study does not aim to evaluate the co-teachers nor the students. Rather, I am trying to learn more about co-teaching in secondary settings.

I am hereby seeking your permission to conduct the study in your school and to approach the co-teaching teams, students with learning disabilities, and students who are nonidentified with disabilities to participate in this study. I would like to conduct four observations in the co-taught classrooms as well as to interview the co-teaching teams and the students.

I have provided you with a copy of my proposal which includes copies of the consent and assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Review Board (IRB). Upon completion of the study, if you wish, I will provide you with a bound copy of the full research report.

If you need any further information, please do not hesitate to contact me on:

Email: alsa6365@bears.unco.edu

Phone: 407-985-6222

Looking forward to your favorable response.

Sincerely,

Aeshah Alsarawi

Ph.D. Candidate, Special Education

University of Northern Colorado

Research Advisor

Todd Sundeen, Ph.D.

Associate Professor

School of Special Education

APPENDIX E
RECRUITING EMAIL

Dear (school principal's name),

Thank you for allowing me to conduct my research in X school.

I would like to schedule a 15-20-minute face-to-face meeting with you and the co-teaching teams in your school. The purpose of the meeting is to introduce myself and to clarify the purpose of the study. During the meeting, I will provide the consent forms to the co-teachers who would like to participate in the study. Additionally, I will ask these co-teachers to provide the consents and assent forms to the parents/guardians of minor students in their classes. Then, the potential participants and I will identify dates, times, and locations for the classroom observations and interviews.

The study does not aim to evaluate the teachers or the co-teaching experience in X school.
Rather, I am trying to learn more about the co-teaching with focusing on a particular a group of students with disabilities in secondary settings.

The participation of the co-teachers in X school in this study is important to improve co-teaching practices in future inclusive classrooms to support students with learning disabilities.

If you need any further information, please let me know about the best date and time to meet and do not hesitate to contact me on:

Email: alsa6365@bears.unco.edu

Phone: 407-985-6222

I look forward to your favorable response and thank you for your consideration in this matter.

Aeshah Alsarawi
Ph.D. Candidate, Special Education
University of Northern Colorado

Research Advisor
Todd Sundeen, Ph.D.
Associate Professor
School of Special Education
College of Education and Behavioral Sciences
Email: todd.sundeen@unco.edu
Office: 970-351-1652 | Fax: 970-351-1061

APPENDIX F
REMINDER EMAILS

Reminder to Conduct Observation

Dear (teacher's name)

This email is to remind you about the observation for co-teaching research.

Here are the observation details:

(Date)

(Time)

(Class)

In case you have any additional questions, please don't hesitate to ask.

Sincerely,

Aeshah Alsarawi
Ph. D. Candidate, Special Education
University of Northern Colorado
Email: alsa6365@bears.unco.edu
Phone: 407-985-6222

Research Advisor
Todd Sundeen, Ph.D.
Associate Professor
School of Special Education
College of Education and Behavioral Sciences
Email: todd.sundeen@unco.edu
Office: 970-351-1652 | Fax: 970-351-1061

Reminder to Attend Interview

Dear (teacher's name)

This email is to remind you about your interview for co-teaching research study with Aeshah Alsarawi.

Here are the interview details:

(Date)
(Time)
(Location)

Your participation in this study is important to improve co-teaching practices in future inclusive classrooms to support students with learning disabilities.

In case you have any additional questions, please don't hesitate to ask.

Sincerely,

Aeshah Alsarawi
Ph.D. Candidate, Special Education
University of Northern Colorado
Email: alsa6365@bears.unco.edu
Phone: 407-985-6222

Research Advisor
Todd Sundeen, Ph.D.
Associate Professor
School of Special Education
College of Education and Behavioral Sciences
Email: todd.sundeen@unco.edu
Office: 970-351-1652 | Fax: 970-351-1061

APPENDIX G

**CONSENT FORM FOR PARTICIPATION IN
RESEARCH FOR CO-TEACHERS**

**CONSENT FORM FOR PARTICIPATION IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO**



UNIVERSITY OF
**NORTHERN
COLORADO**

Project Title: Perceptions Regarding the Effectiveness of Co-teaching to Support Students with Learning Disabilities in Secondary Inclusive Classrooms: Case Study

Researcher: Aeshah Alsarawi, Ph.D. Student, School of Special Education

Phone number: (407) 985-6222

Email: alsa6365@bears.unco.edu

Research Advisor: Todd Sundeen, Ph. D., School of Special Education

Phone number: (970) 351-1652

Email: todd.sundeen@unco.edu

Dear Teacher:

I am a doctoral student at the University of Northern Colorado. I am researching how co-teaching supports students with specific learning disabilities in inclusive classrooms in secondary schools. By assisting with this research, I am asking you to allow me to conduct a classroom observation and an individual interview. The goal of this study is not to evaluate your teaching practices; rather, it is to understand the co-teaching practices in inclusive classrooms.

The observations will be done in your regular class periods and should not take time away from your instruction. The observation will encompass one class period. *Class periods in the local school district range from 50 minutes to 90 minutes.* The goal of the observations is to understand the co-teaching model used and the interactions in the co-taught inclusive classrooms.

I also would like to conduct an individual interview. The interview will last approximately an hour. I will ask you about how co-teaching supports students with specific learning disabilities in the inclusive classroom and what the roles of the co-teachers in inclusive classroom are, as well as any other thoughts you want to share about supporting students with specific learning disabilities based on your co-teaching experience. I will also ask you some demographic questions, such as your gender, teaching experience, and what you learned about co-teaching in your teacher preparation program. The interview will be audio recorded to ensure I have accurate information. I will make a transcription of the interview and then destroy the recording. You will be able to read the transcript to ensure it reflects your answers as you intended.

(Participant's Initials)

Page 1 of 2

I realize this research study will take some of your valuable time. Thus, I want to make the process as convenient as possible, so I will schedule the observation and the interview based on your convenient time. Your name and the students' names will be confidential. Any reference to your information will not be included in transcripts or any reports of my findings. Any files associated with this study will be stored at the University of Northern Colorado in my research advisor's computer in password-locked folder in a locked office for three years following the conclusion of the study, as per university human participant research regulations. After that, the files will be destroyed.

The risks associated with participating in this research are not outside everyday conversations about collaborative teaching to support learning students. Upon completion this study, you will receive a Starbucks gift card worth \$10. The indirect benefits will be your contribution to the field of special education with information that may provide benefits to students with disabilities. The data collected will help us to understand how to support students within inclusive co-taught classrooms.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Having read the above and having an opportunity to ask any questions, please sign below if you would like to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

If you would like to assist with my research, please sign your name in the space below and write today's date next to it. Thank you!

Sincerely,

Aeshah Alsarawi Ph. D. Candidate

Teacher Signature

Teacher's name printed

Researcher

Date

APPENDIX H**CONSENT FORM FOR HUMAN PARTICIPANTS
IN RESEARCH FOR PARENTS OR GUARDIAN**

**CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO**



UNIVERSITY OF
**NORTHERN
COLORADO**

Project Title: Perceptions Regarding the Effectiveness of Co-teaching to Support Students with Learning Disabilities in Secondary Inclusive Classrooms: Case Study

Researcher: Aeshah Alsarawi, Ph.D. Student, School of Special Education

Phone number: (407) 985-6222

Email: alsa6365@bears.unco.edu

Research Advisor: Todd Sundeen, Ph. D., School of Special Education

Phone number: (970) 351-1652

Email: todd.sundeen@unco.edu

Dear Parent or Guardian:

I am a doctoral student at the University of Northern Colorado. I am researching how collaboration between special and general education teachers support students' learning in the general education classrooms. I will ask some students to participate in an individual interview to help me understand how they feel about having two teachers in the same classroom, what interactions they see with the teachers, and if it is more beneficial for them to have two teachers instead of one, as well as any other thoughts they want to share about collaboration between teachers. I will collect samples work that the teachers ask students to do in the class. If you grant permission and if your child indicates a willingness to participate, your child will be interviewed.

The interview will take approximately 20-30 minutes, and I want to record it to ensure I have accurate information. I will make a transcription of the interview and then destroy the audio recording. You and your child will be able to read the transcript to ensure it reflects on their answers as they intended. I will work with the teachers to find the most convenient and uninterrupted time for your child to complete the interview.

The opportunity to provide your child's opinions and perceptions about the collaboration between teachers will help teachers to improve their practices. Also, the information your child will provide may be used to improve teaching support for other students in similar school districts or classrooms.

My advisor and I will be the only individuals who will have access to your child's actual name. I will give your child's name a pseudonym identifier which will be used in transcripts and any reports resulting from this study. Any reference to your child's information will not be included in transcripts or any reports of my findings. Any files associated with this study will be stored at the University of Northern Colorado in my research advisor's computer in password-locked folder in a locked office for three years following the conclusion of the study, as per university human participant research regulations. After that the files will be destroyed.

(Parent's Initials)

Page 1 of 2

The study does not include costs other than the time your child commits to the interview. I realize this study may take some of your child's valuable time. However, the data collected will help me to understand how collaboration between teachers can help secondary school students. The risks associated with participating in this research are not outside everyday conversations students have about teaching to support students' learning. There will be no extra credit for their taking part. However, upon completion the study, your child will receive a Starbucks gift card worth \$10. The findings of this study will contribute to the field of special education and may provide benefit to other classrooms containing students with disabilities.

Participation is voluntary. You may decide not to allow your child to participate in this study and if (s) he begins participation you may still decide to stop and withdraw at any time. Your decision will be respected. Having read the above and having had an opportunity to ask any questions, please sign below if you would like your child to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your child's selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

Please feel free to phone me if you have any questions or concerns about this research and please retain one copy of this letter for your records.

Thank you for assisting me with my research.

If you would like your child to be in my research, please sign your name in the space below and write today's date next to it. Thank you!

Sincerely,

Aeshah Alsarawi Ph. D. Student

Child's full name (please print)

Child's Birth Date (month/day/year)

Parent/Guardian Signature

Date

APPENDIX I

**ASSENT FORM FOR HUMAN PARTICIPANTS
IN RESEARCH FOR STUDENTS**

ASSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO



UNIVERSITY OF
NORTHERN
COLORADO

Project Title: Perceptions Regarding the Effectiveness of Co-teaching to Support Students with Learning Disabilities in Secondary Inclusive Classrooms: Case Study

Researcher: Aeshah Alsarawi, Ph.D. Student, School of Special Education

Phone number: (407) 985-6222

Email: alsa6365@bears.unco.edu

Research Advisor: Todd Sundeen, Ph. D., School of Special Education

Phone number: (970) 351-1652

Email: todd.sundeen@unco.edu

Dear Student:

I am a doctoral student at University of Northern Colorado. I am looking at how teachers support students' learning in secondary school classrooms. As a participant in my research, I will interview you individually, and I will ask you to help me understand how you feel about having two teachers in the same classroom. Also, I will collect samples of work that your teachers give you in the class.

The interview will last about 20 to 30 minutes. I will audio record you so that I can listen to your answers later. I will send you a copy of the interview so you can tell me if the paper states what you said. Your opinions about having two teachers will help the teachers to improve what they do in the classrooms.

My research advisor and I will be the only individuals who will have access to your actual name. I am not going to use your actual name. Do you have another name you would rather have me call you? This protects you from anyone else knowing what you said. My research study will be stored at the University of Northern Colorado in my research advisor's computer in password-locked folder in a locked office for three years following the end of the study, which follows university regulations. After that, all of the files will be destroyed.

This research study does not cost you anything other than the time you give me for the interview. I realize this study may take some of your valuable time. The data collected will help me to understand how teachers teach. The risks associated with participating in this research are not riskier than other everyday conversations about teaching. There will be no extra credit for taking part in the study, but if you complete the study, you will receive a Starbucks gift card worth \$10.

Your parents have said that it is okay for you to take part in this study. Your participation in this study is completely up to you. You may decide not to do it. If you begin to take part, you may still decide to stop at any time. Your decision will be respected.

(Participant's Initials)

Page 1 of 2

After you have read and listened to the above, I will give you a copy of this form. I will also give you an opportunity to ask any questions.

If you would like to be in my research, please sign your name in the space below. Please write today's date next to your name. Thank you!

Student name signed	Student name printed	Date
---------------------	----------------------	------

Researcher signature	Researcher's name printed	Date
----------------------	---------------------------	------

APPENDIX J
OBSERVATION AND FIELD NOTES

OBSERVATION AND FIELD NOTES			
Co-teaching Team #			
Grade Level:		Observation #	
General Education Teacher (GET):		Date of Observation:	
Special Education Teacher (SET):		Time:	
Subject(s) Observed:		Duration:	
Sketch		Field Notes	
Setting			

Interactions	Field Notes
Reflections and Follow-up Questions	

APPENDIX K

**INDIVIDUAL INTERVIEW PROTOCOL USED
WITH CO-TEACHERS**

Prior the Interview

I would like to thank you once again for being willing to participate in the interview aspect of my research. As I have mentioned before, the purpose of my research study is to understand the meaning of effective co-teaching to support students with specific learning disabilities in inclusive classrooms based on the perspectives of members of a co-teaching team. The study does not aim to evaluate your teaching or experiences. Rather, I am trying to learn more about the effectiveness of co-teaching for a group of students in secondary settings. I hope this interview will help me learn about professional practices used to meet the academic and social needs of all students in inclusive classrooms, especially those with SLDs. I would like to highlight some points for you based on the consent form that you signed at that first introduction meeting. Please, do not hesitate to ask me any questions.

To facilitate our note-taking, I would like to audio tape our conversation today. Please note, only my research advisor and I will have access to the tapes, which will be destroyed after they are transcribed. Essentially based on the signed consent form, all information will be held confidential, your participation is voluntary, and you may stop at any time if you feel uncomfortable, and I do not intend to inflict any harm. Thank you for your agreeing to participate. This interview will last approximately one hour.

Before we begin the interview, do you have any questions? If any questions arise at any point in this study, please ask them. I am more than happy to answer your questions.

Co-teaching Team

Grade Level:

Location:

General Education Teacher (GET):

Date of Interview:

Special Education Teacher (SET):

Start Time of Interview:

Subject(s) Observed:

End Time of Interview:

Demographic Questions

- **With what gender do you identified?**

- **What is your role (*based on the type of teaching certification*)?**
 - ☐ Special education teacher
 - ☐ General education teacher, content knowledge (.....)

- **What is the highest level of education you have completed?**
 - ☐ Bachelor's degree
 - ☐ At least one year of course work beyond a Bachelor's degree but not a graduate degree
 - ☐ Master's degree, education specialist, or professional diploma based on at least one year of course work past a Master's degree level
 - ☐ Doctorate

- **How often have you been involved in professional development training on co-teaching?**

- **What did you learn about co-teaching in your teacher preparation program?**

- **Do you feel that you learned sufficient information about co-teaching in your teacher preparation program? Why?**

☐ Yes ☐ No

- **How long have you taught?**
- **How long have you co-taught?**
- **How did you get started?**
- **How long have you co-taught with your partner (s)?**

Interview Questions

- 1. How was co-teaching started at your school?**
- 2. How would you describe or define co-teaching?**
- 3. What training did you get and your co-teacher to work together?**
- 4. How do you address IEP goals in your co-teaching?**
 - What practices do you and your co-teacher implement to enhance social interactions among students with SLDs and their peers in co-taught classrooms?
 - What practices do you and your co-teacher implement to enhance academic interactions among students with SLDs and their peers in co-taught classrooms?
- 5. What changes do you and your co-teacher make to support students with SLDs in the inclusive classrooms?**
- 6. How do you handle the logistics (resources, physical arrangement, planning) of co-teaching?**
 - Is it any different when you teach by yourself?
- 7. What is your view of the ideal outcomes for students as a result of co-teaching?**
- 8. What is your view of the ideal outcomes for you as a result of co-teaching?**
 - How do you feel about your comfort level regarding teaching academic content knowledge?
 - How do you feel about your comfort level regarding adapting your instruction and managing the classroom behavior?

- 9. What else do you want to tell me more about co-teaching with students with and without disabilities in your room?**

General Follow-up Questions (if needed based on the field notes):

- What do you think about...?
- Would you tell me more about that?
- You mentioned that... how did this happen?

APPENDIX L
INDIVIDUAL INTERVIEW PROTOCOL USED
WITH STUDENTS

Prior the Interview

I would like to thank you once again for participating in this interview for my research. Your parents have said that it is okay for you to take part in this study. But, your participation in this project is completely up to you. You may decide not to take part in this study. If you begin to take part, you may still decide to stop at any time. Your decision will be respected. Non-participation will not affect your grade.

The purpose of my research study is to know your opinion about having two teachers work together in the same classroom. The study does not aim to evaluate your teachers or your performance. Rather, I am trying to learn more about having two teachers in the same classroom, and hopefully this interview will help me learn about that. Now, I am going to read the assent form to you.

To help with my note-taking, I would like to audio tape our conversations today. If you still want to take part in this study, please sign the assent form. Please note, only my research advisor and I will have access to the audio record, which will be destroyed after they are transcribed. Essentially, this document states that: (1) all information will be held confidential, (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable, and (3) I do not intend to inflict any harm. Thank you for your agreeing to participate.

We have planned this interview to last no longer than 30 minutes. During this time, I will ask several questions. Before we begin the interview, do you have any questions? If any questions arise at any point in this study, please ask them. I am more than happy to answer your questions.

Co-teaching Team #**Location:****Student:****Date of Interview:****Grade Level:****Start Time of Interview:****Subject(s) Observed:****End Time of Interview:****Demographic Questions**

- With what gender do you identify?

Interview Questions

1. **Tell me what it is like to have two teachers in your classroom at the same time?**
 - How do you feel about having two teachers in your classroom?
2. **What are the jobs of each of the teacher in your classroom?**
3. **Tell me about what each of the teachers do for you when you are learning in the classrooms.**
 - Describe how your materials look like for the lesson?
4. **Tell me what the teachers do when a student challenge by the work.**
5. **What do you think the benefits are of being taught by having two teachers in your classroom?**
6. **Are there any drawbacks of having two teachers? ,If so What are they?**

General Follow-up Questions (if needed based on the field notes):

- What do you think about...?
- Would you tell me more about that?
- You mentioned that... how did this happen?

APPENDIX M**EXAMPLE OF GUIDED NOTES USED IN SCIENCE CLASS**

CONTINENTAL DRIFT NOTES

Who was Alfred Wegener?

- German geophysicist + meteorologist
- Came up with the idea of continental drift
- He was the first person to say that he thought that the crust of Earth was moving
- He died frozen in the ice trying to explain that his idea was right
- He never saw his idea be proved by the science community

How do we know Wegener was right? (evidence)

1. Evidence #1: The continents seem to fit together like puzzle pieces → all land
 - a. When the plates were together it was called Pangaea or "Entire Earth"
 - b. This is believed to be what Earth looked like 250 million years ago
2. Evidence #2: Fossils
 - a. We find the same fossils of animals and ferns on different continents
3. Evidence #3: Rock's
 - a. clams marks are found in places that are warm now
 - b. The marks show that the area was cold at one point in time
4. Evidence #4: Similar geologic features found around the South Africa
 - a. Mountain ranges on different sides of the world are aligned

Wegener's Contribution to the Scientific Community

-Wegener was not the first to suggest that continents have moved about the Earth, but his presentation of carefully compiled evidence for continental drift inspired decades of scientific debate.

-Wegener's evidence, together with other compelling evidence provided by post-World War II technology, eventually led to universal acceptance of the theory of Plate Tectonics in the scientific community.

Wegener was missing one thing... How did the plates move away from each other?

- This led to the thinking of the theory of Plate Tectonics

What is the Theory of Plate Tectonics?

- Earth's outer is made of many plates
- These plates move as a result of division in the mantle
- Earth's surface is constantly being reshaped by these plates
- Earthquakes, volcanoes, rifting, and mountain building all result from the process of plate boundaries

APPENDIX N

WORKSHEETS IN MATHEMATICS CLASS

Original Worksheet in Mathematics Class

3.2.3 How can I rewrite a product?



3-55

a. $(x + 3)(2x + \quad)$

b. $2x(x + 5)$

c. $x(2x + y)$

d. $(2x + 5)(x + y + 2)$

e. $(2x + 1)(2x + 1)$

f. $(2x)(4x)$

g. $2(3x + 5)$

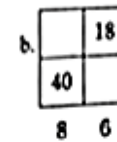
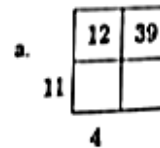
h. $y(2x + y + 3)$

Polynomial _____

Write your own polynomial!!!!

3-59.

Find the total area of each rectangle below. Each number inside the rectangle represents the area of that smaller rectangle, while each number along the side represents the length of that portion of the side.



Adapted Mathematics Worksheet

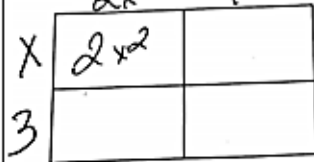
3.2.3 How can I rewrite a product?

Multiplying Binomials and the Distributive Property



3-55. Sketch each rectangle on your paper, label its dimensions, and write an equivalence statement for its area as a product and as a sum.

a. $(x+3)(2x+1)$



b. $2x(x+5)$



c. $x(2x+y)$

d. $(2x+5)(x+y+2)$

e. $(2x+1)(2x+1)$

f. $(2x)(4x)$

g. $2(3x+5)$

h. $y(2x+y+3)$

Polynomial _____

$$x^8 - 4x^6y + 6x^4y^2$$

Exponent

Base

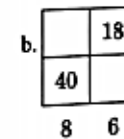
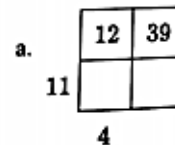
Terms (3 terms)

Polynomial (several terms)

Write your own polynomial!!!!

3-59.

Find the total area of each rectangle below. Each number inside the rectangle represents the area of that smaller rectangle, while each number along the side represents the length of that portion of the side.



APPENDIX O1**DIFFERENTIATED INSTRUCTION IN SOCIAL
STUDIES CLASS: GENERAL GUIDE**



GUIDE TO WRITING A CONGRESSIONAL LEADER

I. Suggested Reasons to Write a Member of Congress

Express an opinion:

- about a current issue
- about a former vote on legislation

Ask a question:

- Why does your leader support a specific issue?
- What is his or her opinion on a specific issue?
- What are the challenges facing a representative in Congress?

Propose legislation

- Explain a problem you see in your community. Depending on the representative you chose to write, this could be a national, state, or local issue.
- Suggest a solution to a problem.

II. Preparing to Write the Letter

Research your Congressional representative

- Find out on which committee(s) your representative serves. Is the issue that most interests you one in which your representative also has an interest?
- What is his/her voting record? Is your representative's political ideology more liberal or more conservative than your own?
- What recent legislation has he/she sponsored? This can indicate an area of interest or expertise for your representative.

Research your issue

- Find out if any organizations or elected officials feel the same as you about this issue. Your representative may find this interesting, especially if they are also from your state.
- How do these organizations gather information and support for their position?
- Read recent newspaper and magazine articles about your issue. What statistical or factual evidence can you gather that supports your opinion?

III. Write the Letter

Traditional Mail:

Electronic Mail:

APPENDIX O2

**DIFFERENTIATED INSTRUCTION IN SOCIAL
STUDIES CLASS: SPECIFIC OUTLINE**

How to Write a Letter to Congress



By Stacie Heaps
Professional Writer and Editor

Writing a personal letter to your representatives in Congress is an effective way to let your voice be heard. When done well, a carefully crafted, concise letter is a powerful tool that can influence lawmakers and bring about change. Nonetheless, congressional leaders are incredibly busy, so take the time and put forth the effort to make your letter well-written and powerful.

1. Though it is tempting to fire off an e-mail, write a letter instead.

Letters do take more effort, both to send and to receive, than e-mail messages, and they therefore warrant more attention. It is easier to overlook an e-mail than it is to disregard a letter (particularly a handwritten letter).

2. State your purpose.

Be specific. Keep your letter focused by addressing only one issue or topic, and state your main purpose in the opening paragraph of your letter.

Example: My name is Janet Calloway, and I am writing this letter to ask that you vote in favor of SB 2222.

3. Make your letter personal.

Keep your letter unique; don't just copy a form letter and send it. Sending one hundred (or even one million) copies of the same letter is not an effective way to communicate the real concerns of real people.

Instead, write a personal letter, from your heart. Make sure to introduce yourself, and explain who you are. If there is a particular reason (such as professional or personal credentials or experience) that you are qualified to address the topic you are writing about, say so.

Example: Because of the circumstances surrounding the tragic death of our neighbor, Mary Tucker, I know first-hand that this bill, if implemented, could save lives.

4. Support your stance.

Be informed when you write your letter, and as you write, be honest and accurate in the information you present. Use specific statistics, numbers, or examples. Saying generally that you don't like a certain law or regulation won't get you very far. Instead, mention how the problem or issue you are addressing directly affects you or those of your community. However, though it is important to write with passion, it is generally best to keep your letter factual, rather than emotional.

For Your House Representative:

The Honorable (full name)
(Room Number) (Name) House Office Building
United States House of Representatives
Washington, D.C. 20515

Dear Representative (last name):

10. Proofread your letter.

Before you sign and seal your letter, make sure to proofread it first. Ensure that you have not left out any important, pertinent information. If you've repeated yourself or if something isn't as clear as it could be, revise. After making any necessary changes, read over your letter one more time to check for spelling, punctuation, grammar, and other errors.

11. Know that your vote counts.

Congressional leaders exist to serve you, a representative of the American people. Most of them truly want to represent faithfully the concerns of those they serve. And they understand that without your vote, and that of others like you, they will not remain in office. Moreover, because representatives receive relatively few personal letters, your letter may hold more sway than you think. So write with confidence!

APPENDIX O3

**DIFFERENTIATED INSTRUCTION IN SOCIAL
STUDIES CLASS: FULL LETTER**

1776 Independence Way
Charlottesville, Virginia 22902

September 6, 2003

The Honorable Virgil H. Goode, Jr.
1520 Longworth House Office Building
Washington, DC 20515

Use Speak Out! to find your official's address.

Dear Congressman Goode,
My name is T.J. and I am a twelfth grader from Monticello High School. I am very concerned about how our nation celebrates that Fourth of July holiday and hope you can answer a couple of questions.

Begin by identifying who you are and why you are writing.

In the 225 years since the Declaration of Independence was written, our understanding of this document and its importance to the history of this nation has increasingly declined. According to a recent poll of graduating high school seniors, almost half of them did not realize that the July 4 holiday commemorates the signing of this great document. Years ago people would celebrate the Fourth by gathering together to read the Declaration of Independence and discuss the importance of the tiny American colonies breaking free from the tyranny of the British Empire. Today the holiday is marked by mega sales at the local shopping mall and contests to consume the most hot dogs in fifteen minutes. These are great for the economy, but they certainly do not encourage respect for freedom, liberty or the sacrifices of past generations.

Explain why you think your issue is so important.

I believe it is up to legislators to provide guidance to our country by passing a law requiring all stores to close at 2pm on July 4. This would allow all Americans to properly celebrate the holiday rather than working or shopping. Congress could also encourage a more thoughtful approach to the day by providing forums for discussion of our history and readings of the Declaration of Independence nationwide.

Offer a specific solution.

I am interested in your reaction to this proposal. Is this an issue you would be willing to discuss with other members of Congress? Do you have any suggestions for making my proposal appealing to you and other legislators?

Ask that the official write back with his or her opinion and thank him or her for reading your letter.

I appreciate your consideration of these questions and look forward to your response.

Sincerely,

T.J. Stroupe

APPENDIX O4**DIFFERENTIATED INSTRUCTION IN SOCIAL
STUDIES CLASS: GUIDED NOTES**

1515 14th Ave
Greeley Central High School
Greeley, CO 80631

October 2019

The Honorable (Full Name of the person you are writing to)
{Address of Senator/Representative}

Dear Congressman {Name Here},

My name is (Your Name) and I am in (Grade) at Greeley Central High School.

(Begin describing the topic you selected. Why is this topic important?)

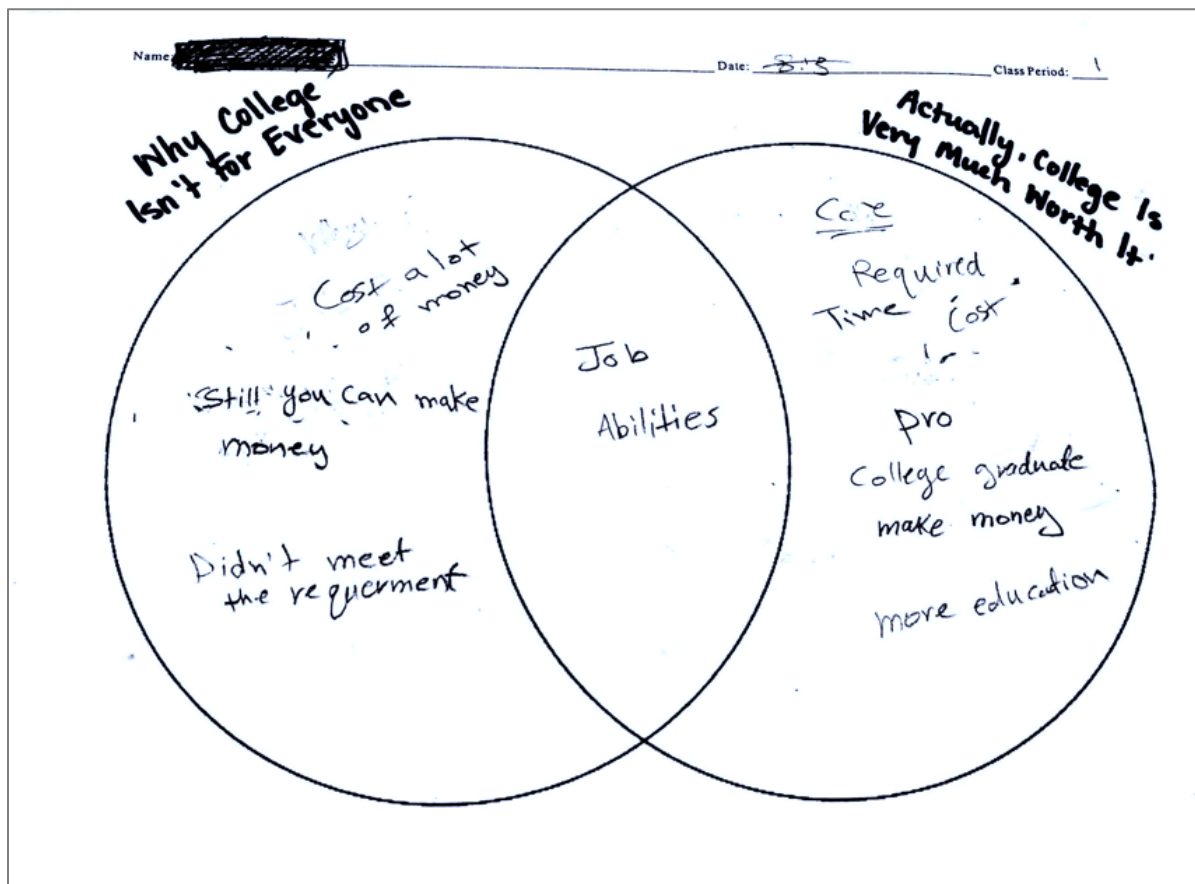
(What is your perspective on this topic? What should your congressman do to address the topic?)

I appreciate you taking the time to read my letter and look forward to your response.

Sincerely,

(Your name)

APPENDIX P**GRAPHIC ORGANIZER USED IN ENGLISH CLASS**



APPENDIX Q
MATERIALS USED DURING GROUP ACTIVITY
IN SCIENCE CLASS

Wegner's Puzzling Continents

Alfred Wegner's Claim is sometimes referred to as the Pangaea Theory.

The Pangaea Theory is one that states that all present continents were once together and collectively known as a "supercontinent" called Pangaea. The word "Pangaea" means 'all lands' in Greek, accurately defining the way the continents were 200 million years ago before it split up. These split up pieces drifted slowly apart and became the way we are today.

The pangaea theory was treated with much skepticism when it was first raised. But since then, there has been much more evidence to support this theory.

Directions- As you "travel" to each continent:

1. First, match your continent with the shape of the continent you are visiting.
2. Next, maneuver your sheet to where the arrow on the continent points north.
3. Then, read through the evidence found on that continent. Draw the given symbols on the appropriate locations on your continent.

After you have gathered evidence from every continent (9 total)...

1. Cut out your continents
2. Looking at the fossil and rock evidence, try to piece together the land masses as they would have been before Pangaea separated.
3. **Just like our continents today do not form an exactly perfect fit if pieced together, yours will not be an absolutely perfect fit. It will be pretty close!**
4. Once you decide how the continents go, glue or tape your pieces into your science notebooks.
5. Fill out the graphic organizer and answer the analysis question, then paste it into your science notebook.

The Puzzle of Pangaea



After completing the Puzzle of Pangaea, fill out this graphic organizer.

Evidence	Your explanation (reasoning) of how this evidence might support Wegener's theory.
Puzzle-like fit of the continents	When the pieces were combined, called Super Earth. This is what Earth looked like 250 million years ago.
Fossil Evidence	We find the same fossils of ferns and animals on different continents.
Climate Evidence	Places are warmer now.
Similar Mountain Ranges and Land Features	different features around Africa

Answer the following question:

Even though Wegener had significant evidence to support his theory, most scientists of his time did not support his theory. What was he missing? Suggest some reasons other scientists did not support Wegener's ideas.

APPENDIX R

**EXAMPLE OF DAILY DIRECTIONS USED
IN SCIENCE CLASS**

10/21/19 ***THIS IS A CLASS SET-DO NOT WRITE ON OR KEEP THIS***

Daily Directions:

Warm up- Think about what Earth's continents looked like when dinosaurs roamed the Earth. Describe the orientation of continents back then and compare them to what orientation the continents have today.

Following the Warm up- Raise your hand and I will stamp you. Get your science notebooks out and glue in your "Continental Drift Notes". Glue sticks are in the purple boxes around the room. Please share them with your neighbors.

YOUR GOAL- is to explore and study the process Alfred Wegener used to come up with his theory of continental drift.

TO DO THIS-

- You are listening to a mini lecture (5-10 minutes) on Alfred Wegener and the Continental Drift Theory. Fill out your guided notes as we do this.
- You are making a "Pangaea Puzzle"
 - **DO NOT CUT OUT PIECES TODAY**--only because we are not finishing this today and I don't want you losing any pieces!
 - **Make sure the continent is facing north before you draw!-- Maneuver your paper around so the arrow on the continent is facing north (up).**
 - Draw out the symbols following the instructions!