Inclusive-Minded Planning for Adept Co-Teaching (IMPACT): 
*The IMPACT Model for Improving Co-Teacher Collaboration for the Inclusive Classroom*

By

Brent Anthony Daniels

A dissertation submitted in partial satisfaction of the
requirements for the degree of
Doctor of Education
in the
Graduate Division
of the
University of California, Berkeley

Committee in charge:

Professor Heinrich Mintrop, Chair
Professor Na'ilah Suad Nasir
Professor Samuel R. Lucas

Fall 2016
Inclusive-Minded Planning for Adept Co-Teaching (IMPACT):  
*The IMPACT Model for Improving Co-Teacher Collaboration for the Inclusive Classroom*

© 2016

By

Brent Anthony Daniels
Abstract

Co-teaching is a strategy that some schools use to narrow the disparity of achievement outcomes for students with disabilities. Co-teaching is broadly defined in the research as the pairing of a general education teacher and a special education teacher (or other specialist) who deliver instruction to a general education class, which includes students with disabilities, and the instruction is presented in a manner that flexibly and deliberately meets the learning needs of all students. In this study, grounded in design and action research, I investigated an intervention designed to help co-teacher partners engage in effective co-teaching. After experiencing the intervention, the co-teacher pairs ($n = 2$), an English and math team at the high school level, showed strong growth in their ability to engage in productive and efficient planning routines and demonstrated moderate growth in their capacity to use a variety of co-teaching methods in the classroom. Analysis of the findings suggests that the intervention worked to increase the ability of the teams to work together within the co-teacher framework to plan and use various co-teaching methods within the classroom. The study findings also indicate that, to enhance the effectiveness of the intervention, future iterations of the intervention need design principles that will foster the ability of the co-teaching teams to connect to the educational needs of all their students and to further learning and achievement for all students.

*Keywords:* co-teaching, co-teachers, inclusion, special education, and high school.
Dedication

I dedicate this dissertation to my parents: Paul Anthony Daniels and Barbara Jean Daniels. Both of my parents are African American University of California, Berkeley graduates and retired California public school educators with over 30 years of public school service. I want to thank them for the guidance and love they have always given me. I would also like to express my gratitude to my three children Trey, Gen, and Kimiko; my brother Troy; as well as other family members and close friends for their never-ending love, care, and support.
# Table of Contents

**List of Figures** ........................................................................................................................................ iv

**List of Tables** ......................................................................................................................................... iv

**Acknowledgements** ............................................................................................................................... v

**Chapter 1: Problem of Practice and the Professional Knowledge Base** .................................................. 1
  - Introduction ........................................................................................................................................ 1
  - Statement of the Problem of Practice and Design Challenge .............................................................. 1
  - Design Challenge ................................................................................................................................. 2
  - Consulting the Professional Knowledge Base ....................................................................................... 3
  - Conclusion ......................................................................................................................................... 12

**Chapter 2: Theory of Action** ................................................................................................................ 14
  - Introduction ......................................................................................................................................... 14
  - Defining the Problematic State ............................................................................................................ 14
  - Theory of Action ............................................................................................................................... 15
  - Explaining the Problem ...................................................................................................................... 15
  - Theory of Change .............................................................................................................................. 15
  - Theory of Intervention ....................................................................................................................... 16
  - Theory of Design Implementation .................................................................................................... 16
  - Sequence of Activities ....................................................................................................................... 16
  - Conclusion ......................................................................................................................................... 17

**Chapter 3: Research Design and Methodology** .................................................................................. 18
  - Introduction ......................................................................................................................................... 18
  - Methodology ....................................................................................................................................... 18
  - The Setting and Study Participants .................................................................................................... 18
  - Data Collection Strategies and Techniques ....................................................................................... 19
  - Types of Data ....................................................................................................................................... 19
  - Data Analysis Procedures .................................................................................................................. 19
  - Impact Data Reporting ....................................................................................................................... 20
  - Reliability, Validity, Transferability, Rigor, Threats to Rigor, Bias .................................................... 23
  - Conclusion ......................................................................................................................................... 23

**Chapter 4: Findings** .............................................................................................................................. 25
  - Introduction ......................................................................................................................................... 25
  - Impact Data Findings .......................................................................................................................... 25
    - Dimension 1: Interpersonal Dynamics .............................................................................................. 26
    - Dimension 2: Partner Processing ...................................................................................................... 34
    - Dimension 3: Partner-Task Development ....................................................................................... 42
  - Impact Data Summary ........................................................................................................................ 49
  - Process Data Findings ........................................................................................................................ 52
    - Chunk One, Module 1: Awareness ................................................................................................. 54
    - Chunk Two, Modules 2 and 3: Awareness & Planning Practice .................................................... 61
    - Chunk Three, Module 4: Awareness, Gracious Space, and Planning Practice ........................... 75
    - Chunk Four, Modules 5-6: Planning & Reflection ......................................................................... 81
  - Process Data Summary ....................................................................................................................... 94
Chapter 5: Discussion

Introduction .................................................................................................................. 99
Meeting the Design Challenge and Deriving Design Principles ........................................ 100
  Meeting the Design Challenge .................................................................................. 100
  Activities that Deepened the Learning ...................................................................... 101
  Activities Not Working as Intended .......................................................................... 102
  Validation of the Design Principles ........................................................................... 103
  Deriving Design Principles ...................................................................................... 105
Further Iterations .......................................................................................................... 106
Re-Examining the Theory of Action ............................................................................... 106
Action Research ........................................................................................................... 107
  Concerns Around the Role of Designer .................................................................... 108
  Concerns Around the Role of Researcher ................................................................. 108
  Concerns Around the Role of School Leader ............................................................ 109
Study Limitations .......................................................................................................... 110

References ..................................................................................................................... 111

Appendices .................................................................................................................... 115
  Appendix A: Co-Teaching Approaches and Themes .................................................... 115
  Appendix B: IMPACT Module Debrief Questions ....................................................... 116
  Appendix C: IMPACT Pre/Post Interview .................................................................. 118
  Appendix D: IMPACT Intervention Sequence of Activities .................................... 121
  Appendix E: IMPACT Planning Protocol .................................................................. 123
  Appendix F: IMPACT Intervention: Module 1 (Partial Activities) ......................... 124
  Appendix G: Co-Teacher Responsibilities .................................................................. 131
  Appendix H: English Team Field Notes—IMPACT Planning Protocol ................... 132
  Appendix I: Math Team Field Notes—IMPACT Planning Protocol ......................... 133
  Appendix J: Closing Conversation—Final Session ...................................................... 134
List of Figures

Figure 1.1 Relationship Between Dimensions of Community (Louis & Kruse, 1995).................................6
Figure 1.2 Co-Teaching—A Subset of Teacher Collaboration.................................................................7
Figure 1.3 Relations for Effective Co-Teaching Development.........................................................................8
Figure 1.4 Group-Internal Dynamics for Meaningful Collaboration Development........................................12
Figure 2.1 IMPACT Conceptual Framework by Dimension of Co-Teacher Dynamics.................................17

List of Tables

Table 1.1 Co-Teaching Themes with Approaches.........................................................................................5
Table 3.1 Participants................................................................................................................................19
Table 3.2 Impact Scoring Rubric..................................................................................................................22
Table 4.1 Co-Teachers A and B^ (The English Team) Self-Rating Scores—Interpersonal Dynamics.............26
Table 4.2 English Team: Interpersonal Dynamics Investigator Scoring Rubric...............................................27
Table 4.3 Co-Teachers C and D^ (Math Team) Self-Rating Scores—Interpersonal Dynamics.......................30
Table 4.4 Math Team: Interpersonal Dynamics Investigator Scoring Rubric.................................................31
Table 4.5 Co-Teachers A and B^ (The English Team) Self-Rating Scores—Partner Processing..................34
Table 4.6 English Team: Partner Processing Investigator Scoring Rubric.....................................................35
Table 4.7 Co-Teachers C and D^ (The Math Team) Self-Rating Scores—Partner Processing........................38
Table 4.8 Math Team: Partner Processing Investigator Scoring Rubric........................................................39
Table 4.9 Co-Teachers A and B^ (The English Team) Self-Rating Scores—Partner-Task Development.........42
Table 4.10 English Team: Partner-Task Development Investigator Scoring Rubric........................................43
Table 4.11 Co-Teachers C and D^ (The Math Team) Self-Rating Scores—Partner-Task Development...............46
Table 4.12 Math Team: Partner-Task Development Investigator Scoring Rubric...........................................47
Table 4.13 Summary of the Impact Data........................................................................................................50
Table 4.14 IMPACT Intervention Overview with Learning Objectives..........................................................53
Table 4.15 Module 1: Main Activities and Learning Expectations.................................................................55
Table 4.16 Modules 2 & 3: Main Activities and Learning Expectations.......................................................62
Table 4.17 Module 4: Main Activities and Learning Expectations.................................................................76
Table 4.18 Modules 5 & 6: Main Activities and Learning Expectations........................................................82
Acknowledgements

I thank the University of California, Berkeley for the opportunity to pursue my doctoral degree in the Leadership for Educational Equity Program (LEEP). The professors on my dissertation committees—Patricia Baquedano-López, Samuel R. Lucas, Na’ilah Suad Nasir, and my advisor Rick Mintrop—provided me with the support I needed to grow academically, prepare for and pass my oral examination, learn how to engage in rigorous research, and complete my dissertation.

I also acknowledge all of my LEEP colleagues from cohort four—Liz Baham, Annie Johnston, Gary Mukai, Micaela Ochoa, and Brooke Soles—for their continual support through all of the phases of my dissertation. Other LEEP colleagues who inspired and gave me needed support and critical feedback to achieve my doctoral degree include Will Dunford, Liz Guneratne, Kyla Johnson, Jason Murphy, Brandee Stewart, Linda Wells, and Pamela Vandekamp.

I also owe much gratitude to a few individuals, other than my professors, for copyediting my dissertation and guiding me through the writing and dissertation process: Jonah Sirott, a professional editor, and LEEP doctoral graduates Liz Baham and Grace Morizawa.

While completing my dissertation, I also worked full time in the San Mateo Union High School District from the time of my admission into LEEP to the passing of my oral exams. Additionally, I worked in the Piedmont Unified School District through the research phase and completion of my dissertation. I would like to thank and acknowledge the individuals within these organizations for giving me unconditional support and encouragement as I earned my doctoral degree.

To all of my family members and close friends, thank you for your love and assistance. Your unrelenting care and support gave me the strength and fortitude to complete my dissertation.
Chapter 1: Problem of Practice and the Professional Knowledge Base

Introduction

One-third of students in public high schools have disabilities (Swanson, 2008). Student achievement data suggests that these students continually lag behind their nondisabled peers in academic achievement and performance (Nord et al., 2011; Swanson, 2008). These discrepancies in academic achievement suggest a pervasive problem of inequitable outcomes of achievement for approximately two million high school students with disabilities (Swanson, 2008). Furthermore, this problem of inequitable achievement has implications for college and career readiness relative to students without disabilities (Nord et al., 2011; Swanson, 2008). Of particular concern with regard to this disparity is that many students with disabilities earn fewer high school credits, have lower grade point averages, and often graduate having taken courses below curriculum standards, frequently failing to meet requirements in the core content areas of Science, Math, English, and Social Science (Nord et al., 2011).

The knowledge base proposes co-teaching as a means to address the disparity in student achievement between these two groups of students. Co-teaching is an instructional practice intended to ensure that schools meet the academic, social, and emotional learning needs of students with disabilities. As an instructional approach, co-teaching is designed to support and advance the academic achievement of special education students and holds considerable promise as a means to remedy the disparity in outcomes between students with disabilities and their non-disabled peers (Beninghof, 2012; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Villa, Thousand, & Nevin, 2004; Walther-Thomas, 1997). Co-teaching often consists of a general education teacher who serves as the content specialist sharing responsibility with a special education teacher who serves as the learning specialist, usually within a classroom of both disabled and nondisabled students (Beninghof, 2014; Villa et al., 2004; Walther-Thomas, 1997).

Statement of the Problem of Practice and Design Challenge

I selected a problem of practice for this design development study that is centered on high school teachers in Mountain Unified School District (MUSD), working within a co-teaching structure. The co-teaching method is meant to provide a stronger system of academic, social, and emotional learning support for students with disabilities as well as increased equitable access to grade level courses and curricula.

By conducting informal interviews with current and former co-teachers, I have identified a need for increased professional development. Additionally, my analysis of the qualitative data indicated that most co-teacher teams lack the necessary interdependence for this joint work to occur. Research has suggested that effective co-teaching requires particular elements of teacher interdependence and technical knowledge fostered through professional development (Walther-Thomas, 1997). These areas are further explored in my consultation of the professional knowledge base. This study employs design and action research principles to examine an
intervention, called Inclusive-Minded Planning for Adept Co-Teaching (IMPACT) within a secondary school setting.

**Design Challenge**

Through a comprehensive needs assessment at Mountain High School (MHS) and informed by an examination of the professional knowledge base on the effective practices, principles, and barriers to co-teaching, I have identified three design challenges: conflict, logistics, and buffering. Below, I define each underlying challenge and how these challenges are situated within the context of the study.

**Conflict.** Some studies have found that co-teacher teams will inevitably experience conflict, or what the small-group development literature describes as stages of forming, storming, norming, and performing (Tuckman & Jensen, 1977). However, in some instances, the co-teacher team experiences problematic conflicts beyond intervention repair (Beninghof, 2012; Villa et al., 2004; Walther-Thomas, 1997). The design of this study’s activities take into account the factor of conflict between the participants for the intervention to work, and ensure that what conflict does arise does not exceed productive levels.

**Logistics.** Logistical factors are an additional challenge facing the design of the intervention. There are two design challenges concerning logistics. The first challenge is that of enrollment of special education students in co-taught courses should not exceed thirty percent (Villa et al., 2004; Walther-Thomas, 1997). However, during the 2013-14 school year, MHS exceeded this standard in one of the co-taught courses. Therefore, it is necessary to develop guidelines and protocols that meet co-taught course enrollment targets.

The second logistical challenge centers on integrating this study’s intervention within the co-teachers’ daily lives, as studies have shown that in order for professional development to change teacher practice, its activities need to be embedded in the teacher’s daily life (Garet, Porter, Desimone, Birman, & Yoon, 2001; Lawrence & Tatum, 1997). To this point, coordination of this study’s 14 week intervention program into the co-teachers’ work lives factors in as a major logistical challenge. To address this challenge, the study’s participants consisted solely of co-teacher pairs that shared a common preparation period. Next, I provide a short overview of the buffering factor.

**Buffering.** Buffering refers to protecting school actors from becoming overburdened by too many school-related responsibilities. Research has shown that without proper buffering of responsibilities by school leaders on behalf of collaborating teachers, collaborative learning becomes stalled and the desired changes in instructional practice go relatively unrealized (Stevens & Kahne, 2006). These same studies have also pointed out that shifting teacher practice through joint work involves more than just providing collaboration time for teachers and having a well-defined instructional focus (Stevens & Kahne, 2006). Therefore, to optimize teacher learning and the potential for desired changes in joint work practices, the factor of buffering entails management taking the steps needed to ensure that during the delivery of the intervention, the participants are buffered from other school endeavors.
Consulting the Professional Knowledge Base

In consulting the professional knowledge base, I have identified selected areas of research that have informed my design development study. I consulted topics including the definition and structures inherent in co-teaching, characteristics of teacher collaboration, and features of leadership, group dynamics, and consensus and conflict. Additionally, a review of the literature has provided a foundational understanding of the structures and systems necessary for effective co-teaching and by extension, student learning. Collectively, these areas of study have allowed me to shift from a state of understanding and conceptualization to intervention design, development, and implementation. In this next section, I provide a distillation of the research that of the identified problem of practice.

The History and Proliferation of Co-Teaching

There is a significant history of partnering two or more professional educators with different areas of expertise, such as a school psychologist and a special education teacher as a method of enhancing the learning and achievement of students with disabilities (Beninghof, 2012; Friend et al., 2010; Lottero-Perdue, 2011). However, these types of collaborative partnerships have historically occurred in special education and therapeutic settings (Friend et al., 2010). Yet, with the passage of legislation, such as The Education of All Handicapped Children Act of 1975, the No Child Left Behind Act of 2001, and the reauthorization of the Individuals with Disabilities Education Act of 2004, a new paradigm now exists in schools.

Today, federal mandates require schools to serve more students with disabilities within the general education setting (Beninghof, 2012; Cook & Friend, 2010; Friend et al., 2010; Swanson, 2008; Villa et al., 2004). Terms such as “least restrictive environment” and, more recently, “inclusion,” are used to describe the process of educating students with disabilities in general education classrooms alongside their nondisabled peers (Friend et al., 2010; Swanson, 2008; Villa et al., 2004). Today, school actors must ensure that all students, regardless of ability level, have access to the general curriculum, receive instruction from a highly qualified teacher, and participate in state and federal accountability testing (Friend et al., 2010). Co-teaching, in concept and structure, represents an instructional delivery design that allows school actors to comply with federal mandates of least restrictive environment or inclusion while simultaneously realizing the promise of increased equitable learning outcomes for students with disabilities.

Defining Co-Teaching

Co-teaching is broadly defined in the research as the pairing of a general education teacher and a special education teacher (or other specialist) who work jointly to deliver instruction to an inclusive group of students, including those with disabilities, in a manner that flexibly and deliberately meets their learning needs (Friend et al., 2010). Importantly, co-teaching does not include the practice of two general education teachers combining their classes to teach lessons, nor is it defined as the addition of a paraprofessional to a general education classroom setting (Wilson & Blednick, 2011). For the purposes of this study, co-teaching is defined as the pairing of a general education teacher and a special education teacher, sharing all aspects of teaching including planning, instruction, and assessment, for an inclusive, heterogeneous group of students (i.e., students with and without disabilities) in a shared
Next, I provide an explanation of co-teaching in the school setting as detailed in the research literature.

**Co-Teaching—Theory of Action, Benefits and Challenges**

The theory of action of co-teaching posits that when two teachers with similar teaching licensure who possess distinct areas of expertise work collaboratively to plan and deliver instruction and assess students, the learning needs of all students are more likely to be met than in a traditional classroom setting (Beninghof, 2012; Friend et al., 2010; MSDE, 2014a; Villa et al., 2004; Wilson & Blednick, 2011). Some researchers have suggested that co-teaching provides multiple benefits for all students, not just those with disabilities, including: increased academic achievement, healthy social and emotional development, stronger peer relations, and other academic and social outcomes that are not widely realized within schools in the United States (Beninghof, 2012; Villa et al., 2004; Walther-Thomas, 1997).

While replete with benefits to student outcomes, the literature also notes the challenges of implementing successful co-teaching systems (Beninghof, 2012; W. Murawski, 2006; Villa et al., 2004; Walther-Thomas, 1997). A number of studies have identified the following systemic and structural barriers that may hinder effective co-teaching, including: scheduling planning time for teachers, student scheduling issues, administrator support, student ratios such as high enrollment of special education students, and inadequate professional development (Beninghof, 2012; W. Murawski, 2006; Villa et al., 2004; Walther-Thomas, 1997). However, a need exists for further research and exploration in order to confirm the promises of co-teaching (Friend et al., 2010; W. Murawski & Lee Swanson, 2001; Walther-Thomas, 1997). Next, I examine the various co-teaching instructional approaches discussed in the literature.

**The Art of Co-Teaching**

The literature on co-teaching identifies four themes of co-teaching: a) **supportive co-teaching**—Teacher A takes the lead and Teacher B assists students; b) **parallel co-teaching**—Teacher A and Teacher B work with different groups of students in the classroom, the students may rotate; c) **complementary co-teaching**—Teacher A leads instruction, while Teacher B paraphrases, interjects ideas or questions; and d) **team co-teaching**—Teachers A and Teacher B simultaneously deliver instruction and alternate lead and support roles (Villa et al., 2004). For a visual representation of co-teaching approaches enumerated above, see Appendix A. Each theme holds one or more distinct co-teaching approaches. A summary of the six approaches by theme is presented in Table 1.1.
Table 1.1

Co-Teaching Themes with Approaches

<table>
<thead>
<tr>
<th>Supportive Theme</th>
<th>Parallel Theme</th>
<th>Complementary Theme</th>
<th>Team Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One teach, One observe:</strong> Teacher A leads large-group instruction, while Teacher B collects academic, behavioral, or social information on individual students or the entire class.</td>
<td><strong>Station Teaching:</strong> Teacher A and Teacher B divide instruction into three distinct parts, then divide their shared students into three groups. During the instructional period, the student groups rotate through each station with Teacher A teaching one station, Teacher B teaching the other station, and students working independently at the remaining station.</td>
<td><strong>Complementary co-teaching:</strong> Teacher A leads instruction, while Teacher B paraphrases, interjects ideas or questions.</td>
<td><strong>Teaming:</strong> Teacher A and Teacher B work simultaneously to lead teacher and student-centered activities including: presenting opposing viewpoints in a debate, demonstrating two ways to solve a problem, and similar instructional practices.</td>
</tr>
<tr>
<td><strong>One teach, One assist:</strong> Teacher A leads instruction and Teacher B moves throughout the classroom offering individual assistance for students, as needed.</td>
<td><strong>Parallel Teaching:</strong> Teachers A and B divide the class in half, then each teacher simultaneously delivers the same curriculum content with the intent of promoting student participation and teacher differentiation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Central to many of the above co-teaching models is teacher interdependence; each approach requires different levels of trust, division of responsibilities, planning demands, content knowledge, and sharing of expertise. Researchers have suggested that each of these co-teaching models possess different advantages and disadvantages for co-teachers to differentiate instruction (Beninghof, 2012; Friend et al., 2010; Villa et al., 2004). In Table 1.1, Teacher A or Teacher B can represent the general or special education teacher (Beninghof, 2012; Villa et al., 2004).

Co-teaching allows for the participating teachers to exercise a variety of instructional practices, such as peer observations, instructional support, flexible grouping, smaller class size settings, station teaching, and team teaming, all of which better meet the learning needs of students and are not readily available for an individual teacher. Next, I examine the literature on teacher collaboration more closely to identify the core characteristics needed to leverage effective co-teaching.
Characteristics of Collaboration

Teacher collaboration is an important element in school improvement. While not unattainable, collaboration among teachers has often proven to be challenging (Bryk, Camburn, & Louis, 1999). Predicated on empirical studies, researchers have identified the main characteristics of a collaborative school culture (or professional community) as consisting of shared norms and values, a focus on student learning, deprivatization of practice, and reflective dialogue (Bryk et al., 1999; Louis & Kruse, 1995). Louis and Kruse (1995) provided a conceptual framework that shows collaboration as interrelated amongst these aforementioned characteristics of a collaborative school culture (see Figure 1.1).

Figure 1.1

*Relationship Between Dimensions of Community (Louis & Kruse, 1995)*

Notably, teacher interdependence, a function of teacher collaboration, is a critical component of co-teaching. For this study, co-teaching represents a subset of teacher collaboration (see Figure 1.2)
Multiple researchers have identified teacher collaboration as a practice capable of producing notable gains in teacher learning and student achievement, particularly when teacher-groups are allowed to work interdependently (Bryk et al., 1999; DuFour, DuFour, & Eaker, 2010; Horn, 2005; Supovitz, 2002). Little (1990) called referred to collaboration as “joint work,” a term that includes the concept of collective action—teachers’ decisions to pursue a single course of action in concert or, alternatively, to decide on a set of basic priorities that in turn guide the independent choices of individual teachers (Little, 1990, p. 519).

The desired outcome of co-teaching reflects the notion of joint work (i.e., increased learning for students with and without disabilities through teacher-to-teacher collaboration). However, despite the enthusiasm and proliferation of teacher collaboration initiatives in schools, an teacher culture defined by autonomy and isolation has remained the pervasive school norm (Hargreaves, 1991; Little, 1990; Lortie, 1975). Notably, this norm may present an impediment to co-teaching efforts. Next, I discuss the phenomena of teacher interdependence within the conceptual framework of teacher collaboration, which represents a superset of co-teaching for this study.

Teacher Interdependence—Heuristic Implications for Co-Teacher Development

Researchers have suggested that for collaboration such as co-teaching to be substantive, teachers must view their relationship as interdependent. Little (1990) provided a useful typology to inform this design study, as she described teacher interdependence in varying intervals. Little called the first interval storytelling and scanning—a process in which teachers engage in informally sharing ideas. The second interval is aid and assistance, in which a teacher receives help in a unilateral direction such as mentoring. The third interval is sharing, which Little defined as giving one’s teaching expertise to another colleague, perhaps in an obligatory manner.
The final interval, not often attained, is joint work—teachers collaborating in concert to improve teaching and student learning (e.g., effective co-teaching). Drawing on the implied positive correlation between the actualization of meaningful collaboration and teacher interdependence, Figure 1.3 represents a visual heuristic for effective co-teacher development related to levels of teacher interdependence and based on collaborating teacher behaviors of storytelling and scanning, aid and assistance, sharing and joint work.

Figure 1.3

Relations for Effective Co-Teaching Development

Adapted from (Little, 1990) A Continuum of Collegial Relation

As evidenced in the above graphic, joint work connotes the type of teacher-group interaction such as teachers working in concert for a school improvement endeavor that is needed for meaningful co-teacher development. Correspondingly, the literature has suggested that increased levels of teacher interdependence coincide with joint work attainment (Little, 1990). However, as teachers attempt to shift from independence to interdependence norms, heightened levels of interpersonal conflict amongst teachers may surface due to norms of autonomy and isolation (Little, 1990; Lortie, 1975). As a result, these levels of conflict may unintentionally stall
or halt the type of collaboration needed for school improvement endeavors (Achinstein, 2002; Little, 1990), such as co-teaching (Walther-Thomas, 1997). For example, Walther-Thomas (1997) explained that a major problem in co-teaching development entails teachers reporting their inability to work with each other due to a generalized rationale of having contrasting philosophies. Next, in order to examine the interpersonal dynamics of collaboration on a deeper level, I touch on the debate between consensus and conflict to inform the design needs for the intervention to work.

**Consensus and Conflict**

DuFour (2004) along with other researchers, described collaboration as a congenial atmosphere fostering an improved work-life—characterized by healthier social relationships with colleagues, greater buy-in, increased work enjoyment, lower job-related stress, deeper understanding of students, and, thereby, a sense of being more effective with students (R. DuFour, 2004; Evans-Stout, 1998). In contrast, an opposing perspective criticizes this consensus bias, claiming conflict, not consensus, as the underpinning force for meaningful collaboration development (Achinstein, 2002; Johnson, 2003; Kelchtermans, 2006; Supovitz, 2002). Likewise, cooperative learning research appears to concur with this contrasting perception, as these researchers have highlighted cognitive conflict between individuals as a means to expand group learning and enhance group productivity (Dillenbourg, 1996). Moreover, Achinstein (2002) indicated that in one school where teacher-groups embraced conflict, deeper adult learning and meaningful collaboration occurred; in the school where collaborating teachers avoided conflict and embraced consensus, researchers did not witness collaboration for school improvement. Little (1990), on the other hand, explained that moderate levels of conflict between teachers could be essential for moving towards joint work. Nevertheless, there are drawbacks to teachers engaging in conflict. Achinstein (2002) suggested that as a result of conflict, some teachers withdrew from collaboration while others considered leaving their school altogether. Little and Lortie (1975) would suggest that these “avoidance” actions are both symptoms of autonomy and norms of independence.

Thus, conflict represents a dichotomous variable that the study takes into consideration and aims to address by allowing co-teachers to engage in productive conflict and resolve patterned responses of teacher avoidance, as needed. Next, I discuss another dichotomous issue for school leaders, embodied in the leadership action of contrivance—compulsory, regulated and prescribed collaboration.

**Contrivance Implications of Co-Teacher Development**

Contrivance as a practice may unintentionally undermine andragogy and collaboration, with reports of teacher compliance, resistance, anxiety, and superficial enactment of mandated procedures as an outgrowth (Talbert, 2010). Contrivance is defined as the regulation of teacher work, the institution of procedural demands, a prescribed pre-determined set of outcomes, and use of external assessments to promote professional learning. Nevertheless, a number of researchers have asserted that contrivance might unintentionally undermine andragogy and collaboration, with reports of teacher compliance, resistance, anxiety, and superficial enactment of mandated procedures as the outcome of such practices (Hargreaves, 1991; O'Day, 2002; Talbert, 2010).
Rather, the knowledge base discusses a different type of administrative control, termed the “professional approach,” as beneficial for facilitating teacher learning and collaboration practices (Talbert, 2010). The professional approach is characterized as supporting teacher innovation, focusing on internal assessments and interventions, and promoting systems that encourage sharing of teacher knowledge and joint work (O’Day, 2002; Talbert, 2010). Hence, this study’s professional development activities will implement professional approach based activities, including: supporting teacher innovation, creating opportunities for teacher’s to engage in reflective dialogue, and using teachers’ internal work to trigger the desired levels of teacher learning and co-teaching development. Next, I briefly discuss other aspects of leadership actions informing needed for the structure and design of the intervention.

Leadership Factors for Collaboration Development

Researchers have posited that meaningful collaboration develops when leadership endorsement and participation are part of the equation (Little, 1982; H. Mintrop & Koistinen, 2010; Scribner, Cockrell, Cockrell, & Valentine, 1999; Stevens & Kahne, 2006; Supovitz, 2002). Stevens and Kahne (2006) three-school case study on leadership and collaboration found that only one of three schools accomplished the developmental practices such as joint work for school improvement. These authors suggested that the one school that attained the developmental practices was due to their school leaders initiating recurring collective discussions and activities on instructional improvement.

Taken together, I conclude that leadership activities grounded in instructional improvement are essential and critical for the realization of teacher collaboration. Informed by the literature, this intervention will incorporate school leaders’ actions that initiate recurring collection discussions and activities on the improvement of co-teaching instruction. As the intervention centers on getting co-teachers to function as a single-group, I now review the literature on small-group development for perspectives and insights not yet discussed.

Small Group Development

H. Mintrop (2004) posited that small group development research “captures the dynamic nature of a process in which uncertainty, fragility, and conflict are precursors of stable group functioning” (p.8). Consequently, group development literature may better capture the process and practicum of developing joint work. In particular, small group development theory is grounded in two competing viewpoints (Gersick, 1988; H. Mintrop & Koistinen, 2010). One viewpoint portrays the small group formation process towards functioning and performing as sequenced developmental stages. In general, the linear model describes groups experiencing the progressive stages of “forming → storming → norming → performing → adjourning” (Tuckman & Jensen, 1977), which is also known as the Tuckman Model (Gersick, 1988; H. Mintrop & Koistinen, 2010). Alternatively, another viewpoint depicts group development as iterative in nature and driven by particular events over time (Gersick, 1988; H. Mintrop & Koistinen, 2010). Similarly, Gersick (1988) explained this model as cyclic “Phase 1 → Transition → Phase 2,” and named this contrasting group development model Punctuated Equilibrium.

In light of these opposing theories, the literature seems to indicate that stable group functioning or teacher collaboration development is dependent on teacher-groups going through
some unique “group-process,” either linearly or iteratively. Hence, this study will draw on small group development theory in that its learning modules will take the co-teachers through processes together. Next, I discuss a heuristic for collaboration development that provides a conceptual framework of the group-internal dynamics to drive the group-processes needed for effective co-teacher development.

A Heuristic for Collaboration Development

In Mintrop and Koistinen’s (2010) American Educational Research Association (AERA) paper, the researchers theorized a heuristic for capturing a teacher group-process for collaboration development. To suggest why the observed teacher-group fell short of passable joint work, Mintrop and Koistinen introduced the following concepts of group-internal dynamics: interpersonal dynamics, group processing, and task development. In this same study, the researchers described the teacher-group experiencing, in a linear fashion, the group-internal episodes of “forming → storming → norming” to develop procedures/protocols and abide by group norms (group processing). Additionally, in the group’s early formative stages, a teacher leader emerged, unassigned by school leadership or the group, to facilitate group processing including such activities as setting agendas, enforcing norms, standardizing minutes, and introducing protocols.

Therefore, possibly as a result of “forming → storming → norming” and leadership support, this teacher team reached passable levels of “group processing.” Yet, unlike group-processing, the group faltered within the group-internal dynamics of group motivation, trust, disclosure, participation and productive conflict (interpersonal dynamics); task clarity, completion and consistency (derivatives of group processing); and engaging in increasingly complex strategies to address the domain task (task development) to enhance the school’s discipline system (H. Mintrop & Koistinen, 2010).

In the final analysis, H. Mintrop and Koistinen (2010) theorized that the teacher-group demonstrated weak collaboration and only achieved one of the group-internal dynamics needed for meaningful collaboration development. Markedly, these authors not only drew on inference to claim weak collaboration within this teacher-group, but more importantly, they attributed this common outcome of subpar collaboration, witnessed in most schools, to the group’s lack of passable capacity and expertise in two out of the three group-internal dynamics for collaboration development. On balance, these authors hypothesized a positive relationship between effective collaboration and passable group attainment of three specific dimensions of group-internal dynamics. Figure 1.4 represents a heuristic for investigating the group-process of guiding collaboration formation and development.
Throughout, I drew on this heuristic to inform the design of the intervention and theory of action to generate impactful co-teaching. In other words, teacher collaboration on the most intimate level—a teacher pair with the shared responsibility of students in a shared classroom.

**Conclusion**

The literature on co-teaching and group dynamics has suggested that the rationale for the presence of high levels of interpersonal dynamics, partner processing, and partner-task development for effective co-teaching development. In sum, teacher collaboration literature has indicated that moving collaborating teachers from being independent to interdependent is essential for meaningful collaboration development. The behavior indicators of interpersonal dynamics and partner processing dimensions connote co-teacher interdependence. Within the co-teaching knowledge base, a number of researchers have pointed out that the paired teachers must
develop expertise in co-teaching instructional strategies for the realization of effective co-teaching (Beninghof, 2012; Cook & Friend, 2010; W. Murawski, 2006; Villa et al., 2004). Additionally, paired teachers must have an understanding of the content of the co-taught curriculum in ways that meet the learning needs of their shared students (Beninghof, 2012; Fulton, Doerr, & Britton, 2010; W. Murawski, 2006). The behavior indicators within the dimension of partner task development draw on many of these aforementioned points. Additionally, group dynamic research has found that stable and well-functioning groups develop over time and need to experience a shared group process (Tuckman & Jensen, 1977).
Chapter 2: Theory of Action

Introduction

Across the United States, public high schools adopt a vision and mission that communicate their beliefs and goals for the students in their care. Many of these vision and mission statements speak to the aspirational desires for meeting all students’ academic, social, and emotional wellness. Inclusivity, college and career readiness, and achievement for all are commonly espoused. However, the reality is that these visions and missions are often not translated into real outcomes for all students. Disparities are apparent when examining disaggregated student academic achievement along commonly used metrics such as high school graduation rates, four-year college eligibility requirements, and grade point averages (Nord et al., 2011; Swanson, 2008). For students with disabilities, the subgroup that is the focus of this study, the disparity in achievement can have lasting implications. Many of these students do not reach levels of proficiency or mastery in core content areas and graduate unprepared for postsecondary pursuits (Nord et al., 2011; Swanson, 2008).

This design study draws on the professional knowledge base and aims to create an intervention to generate effective co-teaching grounded in three dimensions: interpersonal dynamics, partner processing, and partner-task development.

Defining the Problematic State

Since 2007, Mountain Unified School District (MUSD) has employed co-teaching as a strategy to meet the learning needs of students with disabilities. MUSD is an affluent k-12 district, serving approximately 2,650 students in six schools: a comprehensive high school, an alternative high school, a middle school, and three elementary schools. MUSD defines co-teaching as a special education and general education teacher assigned to teach grade level curriculum to a shared group of students with and without disabilities. The MUSD co-teaching program is intended to improve the learning and achievement of students with disabilities and also helps satisfy state and federal mandates such as the requirement that students receive special education services under an individualized education plan (IEP). MUSD offers co-teaching at the comprehensive high school and middle school levels.

This study focuses on the investigation of co-teaching at the high school level. Mountain High School (MHS) enrolls approximately 800 students, where students with disabilities represent 14 percent of the student body, approximately 112 students. MHS offers co-teaching in the following courses: one ninth- and one tenth-grade English course and two Algebra 1 courses. Yet, despite this using a co-teaching strategy, over the past seven years a pervasive and wide achievement gap has existed between MHS students with disabilities and their non-disabled peers. Notably, a number of MHS special education students continually fail to meet proficiency standards on state and federal assessments of co-taught subjects and graduate four-year college eligible. A local needs assessment of the MHS co-teaching program conducted during the 2013 and 2014 school years suggested that district administrators, directors, and teacher leaders have provided minimal guidance for the systemic realization of impactful co-teaching. This needs assessment consisted of examination of student performance data, informal classroom observations, and informal interviews with teachers and administrators.

This study, set in the context of MHS, seeks to investigate a set of management actions...
Inclusive-Minded Planning for Adept Co-Teaching (IMPACT) 15

Theorized to promote the effective implementation of co-teaching. Next, I outline the design challenges for effective co-teaching development.

Theory of Action

Theories of action are conceptions of why a particular practice, innovation, or policy might be effective; they provide a model that indicates how to move from a problematic state to a desirable state (Argyris & Schon, 1978). A theory of action is more open to change and modification than, for example, a conceptual model that generates a firm hypothesis. However, a theory of action needs to be empirically testable in order to see whether the theory works or if it can be substantiated or invalidated by evidence (Argyris & Schon, 1978).

The theory of action upon which this study is predicated is grounded in the professional knowledge base and designed to develop co-teacher capacity along specific dimensions of teacher collaboration, including interpersonal dynamics, partner processing, and partner-task development.

Explaining the Problem

MUSD managers appear to offer insufficient guidance to establish a meaningful co-teaching program that fosters meaningful teacher and student learning. Since the inception of the MUSD co-teaching program, managerial support for its implementation seems sporadic or non-existent. For example, most MHS co-teachers report minimal or no professional development support on effective co-teaching.

A number of studies have suggested that off-site or onsite professional development is ineffective for teacher and organizational learning when delivered contiguously over short periods of time (e.g., one to five days) or when delivered without opportunities for active learning (McDiarmid, 1992; Sleeter, 1992). Through informal interviews, MHS teachers indicated a desire for quality professional development to support the meaningful implementation of quality co-teaching. MUSD managers, to support co-teacher development, currently ensure that co-teachers possess a common prep period within the professional day for instructional planning purposes. However, this practice of a shared common prep represents an intermittent managerial action, as this action by management was not always practiced in prior years.

In sum, MUSD school-leaders provide co-teachers a common planning period, depending on the year, without substantive external or internal professional development and consistent managerial support. Next, I summarize evidence to support the assertion that MUSD managers provide weak guidance for the development of effective co-teaching. Overall, needs assessment evidence has suggested that the challenges facing MUSD in designing impactful co-teaching involves problematic actions and behaviors on two levels.

Theory of Change

The intervention theory of change focused transformation of co-teachers into an interdependent pair to meet the learning needs of students with disabilities. The intervention works by allowing the teacher pair to unlearn and learn desired behaviors through the following
activities: a) experiencing discomfort and dissonance and b) engaging in discussion, reflection, and practice, sustained over time in a safe environment (i.e., non-evaluative).

During the professional development sessions (i.e., modules), I will use literature and video on co-teaching and collaboration practices to allow the co-teachers to affirm sound practices, acknowledge areas of need, and generate intrinsic motivation to learning new desired behaviors by exposure to exemplar definitions and models. The professional development sessions will also include opportunities for co-teacher reflection and discussion to promote the construction of new understandings of the principles on effective co-teaching. In addition to providing co-teachers with the awareness activities as described above, the co-teaching teams will engage in the experiential learning process of joint construction of co-teaching lessons with leadership support.

Theory of Intervention

The intervention involves taking a co-teacher pair through a group process, over a period of 14 weeks in order to foster the desired behaviors of the group-internal dynamics of effective co-teaching as well as to unlearn behaviors that thwart their effectiveness such as undefined roles, nondisclosure, narrow instructional approaches, and co-teacher misconceptions. The 14 week intervention provides opportunities for the co-teacher pair to reflect on and discuss their co-teaching beliefs in a non-evaluative setting. Additionally, the intervention provides the co-teacher pair time to practice and develop their co-teaching skills at the group’s zone of proximal development.

Theory of Design Implementation

The intervention relies on school leadership and teachers within the organization to work collectively to build knowledge and expertise within the natural school setting. First, the participating manager(s) and teacher-pair are responsible for co-teaching implementation. For example, the teacher participants of this study must reflect a paired co-teacher group assigned to work with each other. Additionally, the district or site level manager(s) are responsible to support teacher professional development or co-teaching. Second, the co-teacher pair needs to possess a common planning period during the regular contracted day. This condition allows management to implement the intervention without facing scheduling conflicts or disrupting the co-teachers’ instructional time. Lastly, the co-teachers must possess the willingness to participate in a 14 week professional development series. The 14 week professional development series requires willful participation of a co-teacher pair to engage in discussion, listening, reading, reflection, and hands-on learning activities related to the instructional practice of co-teaching including co-teaching planning and pedagogy.

Sequence of Activities

The intervention includes 10 unique learning modules that take place over a period of 14 weeks. The 10 learning modules consist of six professional development sessions for the teacher pair and four individual debrief sessions with each co-teacher (see Table 4.14 and Appendix D).
The intended outcome of the study’s intervention, led by school leadership, reflects co-teacher team development within the dimensions of co-teacher dynamics proposed in this study (see Figure 2.1). Figure 2.1 outlines the intervention’s short-term, intermediary, and long-term intended outcomes. The study only examines the intended short-term outcomes.

Figure 2.1

**IMPACT Conceptual Framework by Dimension of Co-Teacher Dynamics**

Conclusion

In this chapter, I have explicated my theory of action, change, and intervention. I also presented the three dimensions of co-teaching—interpersonal dynamics, partner processing, and partner-task development that drive essential elements of this study within a conceptual framework by desired outcomes. Next, I present the research design and methodology used to conduct the study.
Chapter 3: Research Design and Methodology

Introduction

In this chapter, I present the methodological choices for the design study and discuss the setting and study participants. I also review essential elements of the research that include baseline, impact, and process data. Additionally, I present a summary of data collection strategies followed by a discussion of the procedures used for data analysis and issues related to reliability, validity, credibility, and transferability. Lastly, I discuss the safeguards put in place to guard against bias and to ensure rigor while simultaneously protecting threats against it.

Methodology

Researchers have postulated that design research is often initiated for complex, innovative tasks for which few validated principles are available to structure and support intervention activities, and where iterative analysis, design evaluation, and revision processes are essential (van den Akker, 1999). I selected a design research methods approach for this study. This study involves design, development, and measurement of the effectiveness of an intervention that is grounded in untested theory and practice and conducted with iterations in the natural setting. The knowledge base has also shown that action research assumes that insiders are often true believers in their particular practices and may be tempted to put a positive spin on their data. Therefore, a mechanism for dealing with bias must be employed (Herr & Anderson, 2005).

Because I represent a researcher as well as an insider, I selected an action research methods approach to ensure safeguards against bias. The intervention in the study was grounded in professional development activities and led by a school leader that plays a dual role as the school’s principal and researcher for the study. The school leader took these participants through an interactive process to hone the co-teacher dynamics for effective co-teaching.

The Setting and Study Participants

The study setting represented Mountain High School (MHS), a wealthy suburban high school with approximately 800 students. The participants for this study consisted of four MHS co-teachers divided into two separate teams. I collected demographic, education, and work experience data for all participants. These co-teachers and their teams held varying levels of education and experience (see Table 3.1). Each co-teacher team consisted of a general and special education teacher. I employed pseudonyms for each of the co-teachers, “A” and “C” for the regular education teachers and “B^” and “D^” for the special education teachers. Co-teachers A and B^ were assigned to teach freshman English and are therefore named the English Team. Co-teachers C and D^ were assigned to teach freshman Algebra, and are named the Math Team. Table 3.1 lists demographic and career-related information for the two teacher teams as of spring semester 2015.
### Table 3.1

**Participants**

<table>
<thead>
<tr>
<th>The English Team (Co-Teachers A and B^)</th>
<th>The Math Team (Co-Teacher C and D^)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher A</strong>&lt;sup&gt;a&lt;/sup&gt; (Age 47)</td>
<td><strong>Teacher C</strong> (Age 47)</td>
</tr>
<tr>
<td>Teaching Experience 25 years. Highest Degree: BA</td>
<td>Teaching Experience 12 years. Highest Degree: BA</td>
</tr>
<tr>
<td>White Female</td>
<td>White Female</td>
</tr>
<tr>
<td>English Credential</td>
<td>Math Credential</td>
</tr>
<tr>
<td>Co-teaching Assignment / Years Working Together:</td>
<td>Co-teaching Assignment / Years Working Together:</td>
</tr>
<tr>
<td>Co-teaching Experience 8 years</td>
<td>Co-teaching Experience 4 years.</td>
</tr>
<tr>
<td>Prior Co-Teacher Training: Four days of training, consecutive, not with co-teacher B^, on-site, external expert in 2009.</td>
<td>Prior Co-Teacher Training: One-day seminar, off-site, no follow-up training with co-teacher D^ in 2014.</td>
</tr>
<tr>
<td><strong>Teacher B^</strong> (Age 51)</td>
<td><strong>Teacher D^</strong> (Age 41)</td>
</tr>
<tr>
<td>Teaching Experience 25 years. Highest Degree: MA</td>
<td>Teaching Experience 10 years. Highest Degree: BA</td>
</tr>
<tr>
<td>White Female</td>
<td>White Female</td>
</tr>
<tr>
<td>Special Education And Multiple Subject Credentials</td>
<td>Special Education Credential</td>
</tr>
<tr>
<td>Freshman English Course / 5 years</td>
<td>Freshman Algebra Course / 3 years</td>
</tr>
<tr>
<td>Co-teaching Experience 5 years</td>
<td>Co-teaching Experience 5 years.</td>
</tr>
<tr>
<td>Prior Co-Teacher Training: Minimal, None with co-teacher A</td>
<td>Prior Co-Teacher Training: One-day seminar, offsite, no follow-up training with co-teacher C in 2014.</td>
</tr>
</tbody>
</table>

Key: The symbol ^ denotes special education teacher.

### Data Collection Strategies and Techniques

I used a mixed methods data collection approach to analyze the effectiveness of the intervention on two measurements of impact and process data. Additionally, I collected quantitative and qualitative data as impact data and qualitative data as process data. The impact data measures the extent the intervention generated the desired short-term outcomes. The process data captures the extent the intervention influenced co-teacher behavior.

### Types of Data

Studies have suggested that design research requires that researchers not only iteratively investigate the intervention’s impact, but also address the question of how to measure the impact (van den Akker, Bannan, Kelly, Nieveen, & Plomp, 2007). As the insider, I measured the causal effect of the intervention on the participants’ behavior with quantitative data for statistical analysis and qualitative data to support the quantitative data findings. I also used qualitative data to capture causal effects, complexities, and details.
The literature has posited that quantitative research methods have grown out of the scientific search for cause and effect (Stake, 1995) and has described the quantitative approach as cause and effect thinking that employs strategies of inquiry. These strategies of inquiry include experiments, surveys, collecting data on predetermined instruments that provide statistical data (Creswell, 2003). For this intervention, I employed a quantitative survey instrument to collect the impact data. The survey instrument included interview questions for each quantitative question to collect probing qualitative data.

Researchers have explained that systematic reflection and analysis of data collected during the intervention process provides an understanding of how the function of the intervention in context, such as its influence on the participants (van den Akker et al., 2007). I collected qualitative data for the process data, as a qualitative data collection approach allows the researcher to study a group, hear silent voices and garner a complex, detailed understanding of an issue (Creswell, 2007). The qualitative data collection methods employed in study included semi-structured interviews, a researcher reflection log, and an analysis of participant documents. I also used Patton’s (2000) suggestion of open-ended interview questions as a strategy to increase the likelihood of capturing nonbiased data. The collected process data served to explain the in-process influence of the intervention on participants.

**Data Analysis Procedures**

As suggested by the literature, in order to reduce concerns of process data uncertainty I relied upon methods of qualitative data analysis and interpretation. These methods include the preparation and organization of the data into themes through a priori and in vivo coding followed by a condensing of the codes. Per Connolly (2007), I also included a final representation of the data in figures, tables, and a discussion. Additionally, the interview included probing questions to support the impact data collection process.

**Impact Data Reporting**

To determine the impact of the intervention I used a pre and post intervention interview (see Appendix C). I used self-ratings differentials and an investigator rubric to examine pre/post interview data across each dimension of the co-teacher dynamic: interpersonal dynamics, partner processing, and partner-task development.

**Impact Data: Self-Ratings Differentials.** The self-rating scale for the participants ranged from 1 (strongly disagree) to 5 (strongly agree). If a participant indicated indecision between two self-rating scores, I averaged the two scores. I determined the impact growth for each interview prompt with the following formula: pre self-rating - post self-rating = impact growth. To illustrate, on the prompt, “you give feedback to your partner on what goes on in the classroom,” a pre self-rating of 2 (disagree) and post self-rating of 4 (agree) would represent an impact growth score of 2. If their partner pre self-rated 1 (strongly disagree) and post self-rated 4 (agree), on the same prompt, the partner’s impact growth would equal 3 and the team’s total impact growth for the prompt would equal 5.
To categorize the ratings’ growth scores, I assigned levels of ‘low’, ‘medium’, and ‘high’ to growth ranges for each participant and co-teacher team. The levels by growth ranges for participants were ‘low’ (1–4), ‘medium’ (5–8), and ‘high’ (≥ 9). By team, the levels of growth range were ‘low’ (1–8), ‘medium’ (9-16), and ‘high’ (≥ 17).

**Impact Data: Investigator Rubric Scores.** To properly analyze the true impact of the intervention required more than analysis of the participants’ self-ratings. To gather more data, study participants were asked to provide an explanation for their ratings. To interpret this data, I created an investigator rubric to standardize my interpretation of the self-rating differentials.

I used the investigator rubric to score the teams at baseline and outcome based on my analysis of the pre and post interview data. I used descriptions of levels of performance for each dimension of co-teaching dynamics to score the teams on the following scale: (1): not evident, (2): initiating, (3): emerging, and (4): sustaining (see Table 3.2). Additionally, when reporting a rubric score, I provide a rationale and discuss variance from the corresponding self-rating and differential scores.
Table 3.2

*Impact Scoring Rubric*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Absent in ways that impede the development of meaningful co-teaching.</td>
<td>Present but is not utilized in ways that facilitate the development of meaningful co-teaching.</td>
<td>Present and serves as a facilitator for the development of meaningful co-teaching in portions by the individual co-teachers.</td>
<td>Present and serves as a facilitator for the development of meaningful co-teaching.</td>
</tr>
<tr>
<td><strong>Interpersonal Dynamics</strong></td>
<td>The team lacks basic goodwill, signs of active participation, and joint motivation. Disclosure of concerns is not apparent.</td>
<td>The team shows basic goodwill and some signs of active participation and motivation. Disclosure of concerns is very limited.</td>
<td>The team engages in goodwill, active participation, joint motivation. Some disclosure of concerns is apparent.</td>
<td>The team engages in goodwill, active participation, joint motivation, and full disclosure of concerns.</td>
</tr>
<tr>
<td><strong>Partner Processing</strong></td>
<td>The use of routines to facilitate identification of student learning goals and needs and co-teacher roles and responsibilities is not apparent or is solely led by one co-teacher. Lesson plans reflect a simple or no co-teaching approach.</td>
<td>The team engages jointly in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect simple co-teaching approaches.</td>
<td>The team engages jointly in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect some complexities of co-teaching.</td>
<td>The team engages jointly in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect the complexities of co-teaching.</td>
</tr>
<tr>
<td><strong>Partner-Task Development</strong></td>
<td>The team does not demonstrate the ability to identify the learning needs of students with and without disabilities. The awareness of multiple co-teaching approaches is not apparent in the classroom.</td>
<td>The team demonstrates the ability to identify the learning needs of students with and without disabilities. They may possess an awareness of multiple co-teaching approaches. However, the team primarily uses only one co-teaching approach in the classroom with limited or no rationale.</td>
<td>The team demonstrates the ability to identify the learning needs of students with and without disabilities. They possess an awareness of multiple co-teaching approaches. The team employs two to three different co-teaching approaches in the classroom strategically and with rationale.</td>
<td>The team demonstrates the ability to identify the learning needs of students with and without disabilities. The team shows a deep knowledge of multiple co-teaching approaches. The team employs three to four co-teaching approaches in the classroom strategically and with rationale.</td>
</tr>
</tbody>
</table>
Reliability, Validity, Transferability, Rigor, Threats to Rigor, Bias

An instrument that consistently measures and maintains information can be considered reliable; strong reliability is a contributing factor for good research (Creswell, 2008; Wallen & Fraenkel, 2001). I employed proven methods to collect and analyze the qualitative and quantitative data, such as insuring that questions on instruments are clear and by following standardized procedures with all instruments. I also fine-tuned the instruments used within the study for increased reliability by consulting the literature, doctoral colleagues, and my advisor.

Validity and reliability are interrelated as validity refers to the extent that the research instruments provide accurate information (Creswell, 2008; Wallen & Fraenkel, 2001). Therefore, the validity of the research instruments of this study played a critical role in accurately explaining the causality of the intervention on the co-teacher behavior. This study employed well-documented qualitative techniques and instruments to address validity concerns and to better ensure the collection of accurate findings drawn from process data as a means to explain causality. To account for validity concerns of impact data findings such as bias, I drew on standardized quantitative data approaches and a low-inference research method coupled with literature-based, qualitative approaches. To ensure this study’s validity, I also conferred with peers and my advisor.

Due to its small and purposive samples, design research findings cannot be generalized from sample to population (van den Akker, 1999). This study design consists of a mixed-methods approach, including purposeful sampling of the participants as well as an insider researcher position. Therefore, the findings will be limited to their context. However, if the design research methods provide information-rich data of the context-in-process (van den Akker, 1999), others can ascertain the transferability of the findings to their own contexts (Richey & Klein, 2009; van den Akker, 1999). Thus, I have thoroughly analyzed the information-rich process data to address transferability limitations of this study.

A key to undertaking design research is to establish rigorous research methods that enable one to make valid conclusions (Richey & Klein, 2009). Van den Akker (1999) explained that “the apparent lack of rigor and control in methodology of development research is sometimes aggravated by unforeseen events or forces in the environment of the development task and context” (van den Akker, 1999, p. 11). To ensure rigor and control in methodology, I followed the procedures of design research. In parallel, Herr and Anderson (2005) stated that in action research, bias, and subjectivity are natural and acceptable in action research as long as they are critically examined. Throughout the processes of data collection and data analysis, I logged notes and conducted procedures for self-reflection. Additionally, I consulted with doctoral colleagues and my advisor for critical feedback to mitigate issues of bias.

Conclusion

Many students with disabilities graduate unprepared for postsecondary pursuits (Nord et al., 2011; Swanson, 2008), which reflects a notable undesired final outcome of their high school experience. This study draws on a design research approach to investigate how a specific intervention treatment fosters effective co-teaching to address this undesirable outcome. Co-
teaching represents an instructional practice intended to ensure that schools meet the academic, social, and emotional learning needs of students with disabilities. This study defines co-teaching as the partnering of a general education teacher and special education teacher within a shared classroom to meet the learning needs of students with and without disabilities.

This study investigates the effectiveness of the Inclusive-Minded Planning for Adept Co-Teaching (IMPACT) intervention which encompasses the development of high school co-teachers across three dimensions—interpersonal dynamics, partner processing, and partner-task development, to promote effective co-teaching planning and instructional practices.

The short-term desired outcome of the intervention was to enhance the capacity of the participants and their teams within the dimensions of co-teacher dynamics proposed in this study. The interim desired outcome was to grow the co-teacher planning and instructional practices of the participants. The long-term desired outcome of the intervention was for students with disabilities to achieve at levels similar to their non-disabled peers. This intervention represents a viable tool that allows school leaders to implement and lead the development effective co-teaching within their schools.

This dissertation centers on three critical questions: How do school leaders guide effective co-teaching at the high school level? How do school leaders leverage the co-teaching framework to meet the students’ needs within a classroom of diverse learners? How should school leaders best implement and provide ongoing support of co-teaching instruction to improve the learning outcomes for students with disabilities?
Chapter 4: Findings

Introduction

This investigation, known as the Inclusive-Minded Planning for Adept Co-Teaching (IMPACT) study, employed design and action research approaches to analyze the effectiveness of an intervention. The goal of this intervention is to foster effective co-teaching in schools. The desired outcome of the intervention is to improve co-teacher practices so that all students achieve the learning standards of a specific course.

This study examined how the intervention enhanced co-teacher team planning and instructional practices over time. The study did not directly focus on gains in student learning. To examine the effectiveness of the intervention, I collected impact and process data from two co-teacher teams. The participants were co-teachers A and B, the English Team, and co-teachers C and D, the Math Team. Teachers A and B are general education teachers and Teacher B and D are special education teachers.

I used the impact data to examine individual and co-teacher team growth on three dimensions: interpersonal dynamics, partner processing, and partner-task development. To determine the impact of the intervention, I compared the self-ratings differentials and utilized an investigator scoring rubric (see Chapter 3, Table 3.2). By analyzing the process data, I was able to make a plausible argument on how the intervention affected the pattern of impact.

Impact Data Findings

To analyze the impact findings from the interview data, I used a three-step approach. The first step was to categorize the self-rating differentials for each participant and team by growth (See pp. 35-36). To accomplish the first step, I displayed the self-ratings data for each team by participant subdimension rating. I then categorized the overall growth for the corresponding dimension by examining differential subtotals for the co-teaching team and each team member (See Table 4.1 for an example). Then, after categorizing the growth for each team and participant, I presented my interpretation of the observed pattern of growth for that team within the particular dimension.

The second step of impact data analysis consisted of using the investigator rubric to analyze the interview data for each team by dimension. I used the investigator rubric to score each team at baseline and outcome with rationale as well as to determine the degree of variance between the self-ratings data and investigator rubric scores (See Table 4.2 for an example).

The final step I used to interpret the impact findings for each dimension reflected a discussion of the impact data by baseline and impact findings for each team by dimension. Next, I begin my analysis of the impact data by presenting the self-ratings findings for the interpersonal dynamics dimension for the English Team.
**Dimension 1: Interpersonal Dynamics**

**Interpersonal Dynamics in the English Team**

Table 4.1

*Co-Teachers A and B^ (The English Team) Self-Rating Scores—Interpersonal Dynamics*

<table>
<thead>
<tr>
<th>Interpersonal Dynamics Subdimensions</th>
<th>Co-Teacher A</th>
<th>Co-Teacher B^</th>
<th>English Team</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Outcome</td>
<td>Individual Growth</td>
</tr>
<tr>
<td>1. Agree on Curriculum Standards</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2. Give Classroom Feedback</td>
<td>4</td>
<td>5</td>
<td>+1</td>
</tr>
<tr>
<td>3. Communicate Concerns Freely</td>
<td>3</td>
<td>5</td>
<td>+2</td>
</tr>
<tr>
<td>4. A Process for Conflict Resolution</td>
<td>2</td>
<td>3</td>
<td>+1</td>
</tr>
<tr>
<td>5. Model Teamwork for Students</td>
<td>4</td>
<td>5</td>
<td>+1</td>
</tr>
<tr>
<td>6. Celebrate Outcomes</td>
<td>3.5</td>
<td>5</td>
<td>+1.5</td>
</tr>
<tr>
<td>Totals (30 max.)</td>
<td>21.5</td>
<td>28</td>
<td>+6.5 Medium</td>
</tr>
</tbody>
</table>

*Key: Level by Growth Totals*
1. **Individual:** ‘Low’ (1–4), ‘Medium’ (5–8), and ‘High’ (≥ 9)
2. **Overall Team:** ‘Low’ (1–8), ‘Medium’ (9–16), and ‘High’ (≥ 17)

The English Team had overall ‘low growth’ in their interpersonal dynamics, as shown in Table 4.1, with Teacher A’s scores indicating ‘medium growth’ while Teacher B^’s scores were ‘low’. Hence, the intervention appears to have been more sensitive to growing the interpersonal dynamics of the general education co-teacher compared to her special education teacher counterpart in this team.
Table 4.2

*English Team: Interpersonal Dynamics Investigator Scoring Rubric*

<table>
<thead>
<tr>
<th>Interpersonal Dynamics Baseline</th>
<th>Interpersonal Dynamics Outcome</th>
</tr>
</thead>
</table>

**Rationale:** Though the English team showed strong goodwill, they also displayed a lack of disclosure, resulting in a score of (2).

At baseline, the English team shows goodwill with consistent collaboration practices. This team meets at least once per week during a common prep period to lesson plan and engages in quick check-ins at the end of class as well as weekly email exchanges to lesson plan and address classroom or team concerns. Teacher B\(^\wedge\) reports that she is able to interject when Teacher A is leading instruction without problems. Disclosure for this team appears limited, as the teachers did not disclose their full concerns with each other. At baseline, Teacher A shared that during the previous school year, she did not fully disclose a team issue that her partner, Teacher B\(^\wedge\), later learned of from another colleague. Pre intervention, the issue was eventually resolved, though Teacher B\(^\wedge\) was not pleased that her partner did not speak to her first. At baseline, Teacher B\(^\wedge\) also reported frustration that Teacher A employs a particular teaching style too much, but Teacher B\(^\wedge\) does not share the frustration with her partner.

**Rationale:** The English team showed strong goodwill and improved disclosure of concerns, resulting in a score of (3).

At outcome, some full disclosure of concerns still exists for the English Team. Teacher B\(^\wedge\) continues to express that the sharing of concerns is lopsided and feels that she is more open than Teacher A. However, Teacher B\(^\wedge\) also claims that the sharing of concerns has improved. Teacher A reports that she and Teacher B\(^\wedge\) talk about ways to come together in order to make the learning goals of the lesson more accessible to all students. Teacher B\(^\wedge\) also reports that their team now has a designated time to discuss concerns during their collaboration time.

**Variance from Self-Ratings:** My investigator rubric score for the English Team grew from (2) at baseline to (3) by outcome. My outcome score of (3) does not align with the English Team’s or Teacher B\(^\wedge\)’s outcome rating of ‘low growth’ for interpersonal dynamics. However, this score does align with Teacher A’s outcome rating of ‘medium’ and the observation that both co-teachers increased their outcome ratings on three out of six interpersonal dynamics subdimensions: communicate concerns freely, a process for conflict resolution, and model teamwork for students. I also justify my score of (3) as both members of the English team conveyed improvement on disclosure of concerns on their post interviews.

I gave the English Team a baseline interpersonal dynamic score of (2). This score is based on my baseline analysis of the English Team’s demonstration of goodwill as well as the team’s pattern of not fully disclosing concerns and their inconsistent process to resolve conflicts.
For example, on the pre interview, Teacher B reported the benefits of weekly meetings during their 95 minute common prep period: “We collaborate every Friday at 9:15...We’ve been pretty good about that this year too.” However, during the same pre interview, Teacher B reported that she felt that class instruction was too verbal and not varied enough to meet the learning needs of all students, but she had yet to discuss this issue with her partner:

> Well, I want more of how can we present it more visually or in groups or she’s extremely verbal. This is again confidential subject. She’s just a very gifted English teacher in the sense that she can verbalize and explain and instruct very well. Having a graphic organizer for kids or having a series of really showing them how to write isn’t her forte. It isn’t her strength to me. That’s been challenging.

On the pre interview, Teacher A confirmed this pattern of limited disclosure: “I would say she is more open with me then I am with her.” Later, Teacher A provided an example of how she did not fully disclose her concerns with her partner:

> Last year there was–and I know we’re talking about this year but just for the relationship, last year there was a miscommunication. There was the potential that I would not be co-teaching this year. And I did not go directly to my partner and say, “I will not be co-teaching next year.” And she found out that I may not be co-teaching and so she was frustrated and took it personally that I didn’t come to her first. And she was able to communicate that to me. Not right away but after it simmered within her. But she was able to communicate and I was able to talk to her about it. So, that’s a larger topic.

I also assigned a baseline score of (2) for the English Team, as they do not appear to use a consistent process to resolve conflicts or team concerns, as Teacher A explained:

> We do not use a consistent method for conflict resolution...It comes out as an, “Oh, come on,” or, “I’m feeling frustrated with,” and a face-to-face conversation. And that has been great. There hasn’t been email exchanges, but face-to-face communication that, “I am frustrated with” –and then it allows the other person to address it.

Yet, despite the English Team’s lack of full disclosure and inconsistent conflict resolution practices, Teacher B also discussed the goodwill her team displayed within the classroom and how she felt great about it:

> I think in front of the students we show negotiation. I’ll stop her with a question that I think some struggling students might have that don’t want to verbalize. I feel okay and free to say things like wait a minute, wait Teacher A can you rephrase that? I have a question about that. That confuses me so I’m just wondering–I kind of preface it in a way that kids might be thinking. I’m using some student talk and getting some clarification. Something also that’s been really powerful and we need to do it more is when I teach the lesson yet she’s still the expert so she’s then interjecting. We’ve really found that to be really great.
Therefore, I justify my outcome score of (3) based on my analysis of the English Team’s continued demonstration of goodwill, an improved pattern of full disclosure of concerns, and the presence of a process to resolve conflicts. To illustrate, on the post interview, Teacher B explained that giving feedback on concerns has improved, with cooperative feelings still present between the two teachers:

*I think us giving feedback has gotten better. That’s good. Usually it’s after class when we either meet again or if we have got the ten minutes. But we’ve also been like that didn’t work. Can I take this next piece and you chime in?*

Later, Teacher B gave an example of her disclosing concerns with Teacher A, on the post interview:

*During our prep, a few times I’ve said, “I think we really have to talk this out.” As an example that we kinda go through, I’m frustrated that the same kids are talking...And it’s those high level verbal kids, and what can we do?...It’s the same kids... You just see everyone else just go okay, I’m gonna sit back. I’m gonna zone out...I don’t have to talk.*

The above passage is significant because in the pre interview, Teacher B stated that she had not shared her concerns about relying to heavily on verbal instruction with Teacher A. By outcome, however, Teacher B attempted to address her concerns that this method of teaching only met the learning needs of the “high level verbal kids.” Additionally, at outcome, Teacher B pointed out that:

*I mean, I feel like I do, but I feel like she doesn’t communicate freely with me...I don’t feel like she communicates to me. Like, I’ll say, “That didn’t work”— or I’ve said, “I’m feeling frustrated. I’m feeling like this isn’t”— and she just immediately kinda wants to fix it and make things okay and not like well, this isn’t working for me Teacher B. And I think that’s just kind of her personality not making waves.*

Lastly, Teacher B stated that at outcome, her team now had a set time to discuss concerns: “We have a process for conflict resolution because we had this designated time. And it’s talked about.” Though pre intervention, this team had no formal process to resolve conflicts, by outcome, this team has established a set time to discuss potential concerns.

Shifting to her partner, Teacher A discussed during the post interview how her team discloses concerns to come together to agree on curriculum standards:

*I look at it from the English skill level that we’re trying to achieve, and she looks at it as how am I gonna make that accessible to everyone. And then if she sees—she talks to me about why those skills, why we have to reinforce those skills. So we come together on that.*

Teacher A also expressed strong agreement that her team gives feedback to one another about what goes on in the classroom:
I would say throughout the years it’s moved from a four to a five and it’s done in several ways. It’s done, if we have time, as class ends. We debrief right there. Sometimes we do it during class if we just feel like, okay, let’s regroup. And then sometimes we meet more formally during our planning time and talk about it.

For the above reasons, in the area of for interpersonal dynamics, I based on my justification of the English Team moving from (2) to (3) on this team’s continued goodwill and improved disclosure of concerns from baseline.

**Interpersonal Dynamics in the Math Team**

Table 4.3

*Co-Teachers C and D^ (Math Team) Self-Rating Scores—Interpersonal Dynamics*

<table>
<thead>
<tr>
<th>Interpersonal Dynamics Subdimensions</th>
<th>Teacher C</th>
<th>Teacher D^</th>
<th>Math Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agree on Curriculum Standards</td>
<td>Baseline</td>
<td>Outcome</td>
<td>Individual Growth</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>+1</td>
</tr>
<tr>
<td>2. Give Classroom Feedback</td>
<td>4.5</td>
<td>5</td>
<td>+0.5</td>
</tr>
<tr>
<td>3. Communicate Concerns Freely</td>
<td>4.5</td>
<td>4.75</td>
<td>+0.25</td>
</tr>
<tr>
<td>4. A Process for Conflict Resolution</td>
<td>4</td>
<td>4.5</td>
<td>+0.5</td>
</tr>
<tr>
<td>5. Model Teamwork for Students</td>
<td>4.5</td>
<td>5</td>
<td>+0.5</td>
</tr>
<tr>
<td>6. Celebrate Outcomes</td>
<td>4</td>
<td>5</td>
<td>+1</td>
</tr>
<tr>
<td>Totals (30 max.)</td>
<td>25.5</td>
<td>29.25</td>
<td>+3.75 Low</td>
</tr>
</tbody>
</table>

Key: Level by Growth Totals

3. **Individual:** ‘Low’ (1–4), ‘Medium’ (5–8), and ‘High’ (£ 9)

4. **Overall Team:** ‘Low’ (1–8), ‘Medium’ (9–16), and ‘High’ (£ 17)

As seen in Table 4.3, the Math Team’s interpersonal dynamics scores at baseline and outcome all represented ratings of 4 or higher. These high self-ratings suggest that interpersonal dynamics on the Math Team were already strong prior to the intervention. Therefore, it is possible that the Math Team may have not needed to improve in this area. With such high baseline scores, the instrument was not sufficiently sensitive to register notable growth.
Table 4.4

**Math Team: Interpersonal Dynamics Investigator Scoring Rubric**

<table>
<thead>
<tr>
<th>Interpersonal Dynamics Baseline</th>
<th>Interpersonal Dynamics Outcome</th>
</tr>
</thead>
</table>

**Rationale.** I scored the Math Team (4) because of their strong goodwill and disclosure of concerns.

Pre intervention, this team shows goodwill by meeting at least once per week during their common prep period as well as check-ins at the end of class. The Math Team’s co-teachers acknowledge that if something is bothering them about their shared class, they will disclose the concern to one another in private.

The Math Team has established a rapport so that during instruction, either teacher can freely interject as they see fit. Additionally, the Math Team values each other’s expertise. To deal with conflicts, the team uses an informal norm of assuming the best intentions.

**Variance from Self-Ratings.** My baseline rubric score of (4) for the Math Team’s interpersonal dynamics remained at (4) at outcome. The investigator rubric score also aligned with the high self-rating scores for co-teachers C and D’s interpersonal dynamics self-ratings at both baseline and outcome. Hence, there was ‘low growth’ or ‘no growth’ for the interpersonal dynamics dimension, as the Math Team’s interpersonal dynamics were already at high levels pre intervention.

Pre intervention, the Math team already possessed strong interpersonal dynamics. Therefore, the Math team received a (4) as co-teachers C and D engage in goodwill, active participation, joint motivation, and full disclosure of concerns. To illustrate, during the pre interview, Teacher D, described her team’s ability to engage in full disclosure:

*Okay. What I think—I've learned so much from my partner about this. She always approaches our conversations with the attitude that we—that I have the best intentions. So when there has been a miscommunication she has started it with, I know you care about the kids or I know you wanted to do this. But when this was said or when this was done this is how it made me feel or caused me to do whatever.*
Teacher D\(^{\wedge}\) continued to explain how their team is able to communicate effectively:

*The other thing that’s so amazing about my partner is she often also gives suggestions like, this is how it felt for me so if that’s important for you next time if you could say it this way or approach it in this way. So she's also providing solutions for how she knows it would help.*

Teacher C supported my assertion that their team engages at the rubric level of \((4)\) for interpersonal dynamics. When responding to the interview prompt: “we have a process for resolving our disagreements,” in the pre interview, Teacher C stated:

*I would say that’s a 4 and that if something is bothering one of us, we do say it. If something is affecting the kids, we’re definitely going to say it. Our process would be to just be open with each other, and make sure we’re in private while we’re doing that.*

Additionally, pre intervention, the Math Team was already engaged in goodwill on many levels. For example, Teacher C, shared that:

*We meet mostly after class, or after school. Maybe sometimes it could be during our common prep also. During common prep, we’ve had some time to process from the day before.*

Teacher D\(^{\wedge}\) also discussed how their team works effectively both electronically and face-to-face: “We Email—so we have a shared Google doc that we communicate through on. I would say we owe—at the end of every class we have a quick check-in.”

Additionally, Teacher C explained the details of how her team works to engage in difficult conversation during slow periods:

*I think, if there was something bothering either of us, and we just need to make sure we have clarity with each other, that wouldn't be something we would say in a rush, like, right before class starts or anything like that. It would probably be, if we know we can hang out after school, and neither of us are in a rush to leave, it would probably be in a circumstance like that that one of us would bring it up.*

Moreover, on the post interview, Teacher D\(^{\wedge}\) provided an example of her partner giving her critical feedback on an email she was planning to send to parents:

*And she’s like well, what about this line and that line and I was like defending why I wrote the line and then I was like wait a minute, why am I...and I changed it and it was so interesting, the response from the parents, like my partner was dead on like she said, “Oh, that might feel a little abrupt to the parents.” And they had shared something about him that we didn’t know, and that was like that totally would have hurt them, like it was just so perfect.*
The above passage demonstrates how, post intervention, the Math Team continues to engage in strong goodwill and full disclosure practices from baseline.

**Impact Data Summary of Interpersonal Dynamics**

In summary, I assigned the English Team an interpersonal dynamics score of (3), which rose from a baseline score of (2). At outcome, the subdimension of “communicates concerns freely” showed the most growth for the English Team. Furthermore, my analysis of the post structured interview suggests that the English Team disclosed concerns related to improving instructional practice to make the curriculum more accessible for students.

The pattern of impact varied for the Math Team and the English Team. At baseline, the impact data showed that the Math Team already possessed interpersonal dynamics at level (4). Therefore, I was unable to compare a difference between the baseline and outcome data to determine a pattern of impact for the Math Team.
## Dimension 2: Partner Processing

### Partner Processing in the English Team

Table 4.5

Co-Teachers A and B^ (The English Team) Self-Rating Scores—Partner Processing

<table>
<thead>
<tr>
<th>Partner Processing Subdimensions</th>
<th>Co-Teacher A</th>
<th></th>
<th>Co-Teacher B^</th>
<th></th>
<th>English Team</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Outcome</td>
<td>Individual Growth</td>
<td>Baseline</td>
<td>Outcome</td>
</tr>
<tr>
<td>1. Co-teaching models are based on student needs</td>
<td>1</td>
<td>4</td>
<td>+3</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>2. Share responsibility in what to teach</td>
<td>2</td>
<td>4</td>
<td>+2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>3. Share ideas, materials and information</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4. Meet regularly</td>
<td>4</td>
<td>5</td>
<td>+1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Productive meeting time</td>
<td>3</td>
<td>5</td>
<td>+2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>6. Depend on one another</td>
<td>4</td>
<td>5</td>
<td>+1</td>
<td>2.5</td>
<td>4</td>
</tr>
<tr>
<td>7. Share responsibility for differentiating</td>
<td>4</td>
<td>4.5</td>
<td>+0.5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Totals (35 max.)</td>
<td>23</td>
<td>32.5</td>
<td>+9.5 High</td>
<td>21.5</td>
<td>29.5</td>
</tr>
</tbody>
</table>

**Key:** Level by Growth Totals
1. *Individual:* ‘Low’ (1–4), ‘Medium’ (5–8), and ‘High’ (≥ 9)
2. *Overall Team:* ‘Low’ (1–8), ‘Medium’ (9–16), and ‘High’ (≥ 17)

Table 4.5 shows high partner processing growth for the English Team as a whole and for Teacher A individually. At outcome, I observed a pattern of balanced growth between co-teachers A and B^ and increased growth across all seven partner processing subdimensions for the English Team.
Table 4.6

**English Team: Partner Processing Investigator Scoring Rubric**

<table>
<thead>
<tr>
<th>Partner Processing Baseline</th>
<th>Partner Processing Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(2): Initiating.</em> The team jointly engages in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect simple co-teaching approaches.</td>
<td><em>(3): Emerging.</em> The team jointly engages in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect some complexities of co-teaching.</td>
</tr>
</tbody>
</table>

**Rationale.** Slightly more succinct: 
*I scored the English Team (2) because of the weak and loose nature of their co-planning of lessons to meet the needs of all learners.*

Pre intervention, the English Team meets at least once per week for approximately 45 minutes. During collaboration time, this team determines the content and learning goals for their co-taught lessons.

However, during the English Team’s planning time, the team does not identify students’ learning needs or employ varying co-teaching approaches within the lesson to meet the learning needs of all students. This team, however, does lesson plan for the simple co-teaching approach of “one teach, one support,” the supportive theme.

**Variance from Self-Ratings.** My investigator rubric score for the English Team’s partner processing increased from (2) at baseline to (3) at outcome. My rubric scores align with the witnessed ‘high’ partner processing growth for the English Team. Notably, within the self-ratings at outcome, six out of the seven partner process subdimensions rated at 4 or higher for both co-teachers. As noted earlier, the English Team grew across all seven subdimensions of partner processing for an overall team outcome growth of ‘high’.

Pre intervention, the English Team meets weekly to lesson plan, but their lesson plans lack deviation from the supportive co-teaching approach. On the pre interview, Teacher B discussed her team’s lesson planning process:

*When we collaborate we’re looking at the week ahead I kind of seem to say or I say, which part of that can I take? Because I feel like I need to—I think the kids need to see me do that and I like to do that...Mostly it’s teaching support co-teaching.*
This statement by Teacher B indicated limited use of a variety of co-teaching methods. Teacher B also expressed some dissatisfaction with how the collaboration time is absent of strategy development:

*It’s in that collaboration time. We kind of go through what needs to happen that week then who’s going to do what...Having actual strategies and materials, I’m not presented with those from her much. It’s not as much—which I would like. “It is planning the week more than strategizing the week.*

In sum, my baseline score of (2) is justified because the way teachers co-plan lessons does not reflect the consideration of varying co-teaching approaches and strategies, as would be expected for a higher score.

At outcome, the English Team now considered and employed a variety of co-teaching approaches within their lesson plans. On the post interview, Teacher A discussed how her team considers “switching it up” to meet their students’ learning needs by putting students into groups:

*I tend to think more content and then I have to get this done and my partner will come in and talk to me about, “Yeah, but that’s not gonna help every kid”.... “You have to think about the different ways you’re gonna do this.” Or she also says “Let’s try and switch it up.” So it’s a good reminder for me...Yeah, I think in terms of changing it up I think...it’s the one teacher with one group, one teacher with another group, and sharing that idea and knowing that we do have that resource and we should be doing it more, or the station approach.*

In the above passage, Teacher A discussed the parallel co-teaching approaches of “splitting” and “stations.” These methods show the team’s growth in their use and consideration of co-teaching instructional techniques beyond the supportive approach. Similarly, in the post interview, Teacher B discussed how her team had made use of new co-teaching approaches:

*It’s really just more of a supportive, we have done stations a couple of times, and where we take a couple of student groups a couple of times. Additionally, we did the co-teaching stations and parallel grouping of students, during our time together with you.*

Thus, at outcome, the English Team appeared to grow in their ability to consider and use a variety of co-teaching approaches within their lesson planning and instruction. For example, post intervention, the English Team considered the co-teaching approach of putting students into groups, an approach rarely considered by this team pre-intervention. Use of this method shows an increase in the English Team’s use of strategies that meet the learning needs of all students.

An outcome score of (3) is justified, since at outcome, the English Team implemented a routine to structure their collaboration time. Teacher A explained how their team changed from loose planning to a more structured model:

*So, again, using the chart you gave us more structure and form, but we had that as a more loosely based model. It seems like we came in, we talked personal first, then got to*
work, then figured out, okay, what does that mean for next week, X, Y, and Z. But the chart helped us guide through that a little bit more deliberately.

The “chart” that Teacher A references above is the Planning Protocol intervention tool (see Appendix E) provided to both teams during Module 2.

Additionally, on the post interview, Teacher B commented that: “I think that differentiating instruction is really coordinated between the two of us really quite well.” However, at baseline, Teacher B made a contrasting comment that does not fully affirm her partner’s claim of strong coordination of co-planning differentiated lessons within their team:

I’d say that our differentiated instruction is...good and sometimes it’s I feel like I kind of have to fight for it so to speak and work hard at it. Then I think sometimes we are in sync about it.

At outcome, I justify my score of (3) as the English Team has grown in their ability to use a variety of co-teaching approaches within their planning and instruction, make effective use of their collaboration time, and work jointly to differentiate instruction.
**Partner Processing in the Math Team**

Table 4.7

*Co-Teachers C and D^ (The Math Team) Self-Rating Scores—Partner Processing*

| Partner Processing Subdimensions | Co-Teacher C | | Co-Teacher D^ | | Math Team |
|----------------------------------|-------------|--------------|---------------|-------------|
|                                  | Baseline | Outcome | Individual Growth | Baseline | Outcome | Individual Growth | Overall Growth |
| 1. Co-teaching models are based on student needs | 1.5 | 3.5 | +2 | 2 | 5 | +3 | +5 |
| 2. Share responsibility of what to teach | 2 | 4 | +2 | 3 | 5 | +2 | +4 |
| 3. Share ideas, materials, and information | 4 | 5 | +1 | 3 | 5 | +2 | +3 |
| 4. Meet regularly | 3 | 5 | +2 | 4 | 5 | +1 | +3 |
| 5. Productive meeting time | 3 | 4 | +1 | 4 | 4 | 0 | +1 |
| 6. Depend on one another | 4 | 5 | +1 | 2.5 | 4 | +1.5 | +2.5 |
| 7. Share responsibility for differentiating | 4 | 5 | +1 | 3 | 4 | +1 | +2 |
| Totals (35 max.) | 21.5 | 31.5 | +10 High | 21.5 | 32 | +10.5 High | +20.5 *High |

Key: Level by Growth Totals
1. Individual: ‘Low’ (1–4), ‘Medium’ (5–8), and ‘High’ (≥ 9)
2. *Overall Team: ‘Low’ (1–8), ‘Medium’ (9–16), and ‘High’ (≥ 17)

Table 4.7 shows an outcome pattern of ‘high’ partner processing growth for co-teachers C and D^ as well as the Math Team as a unit. Notably, the totals for baseline and outcome self-ratings for the Math Team are almost identical, and similar to the English Team, the Math Team showed growth on all partner processing subdimensions. Based on teams’ self-rating totals at outcome, both teams experienced ‘high’ dimension growth for partner processing.
Table 4.8

Math Team: Partner Processing Investigator Scoring Rubric

<table>
<thead>
<tr>
<th>Partner Processing Baseline</th>
<th>Partner Processing Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(2): Initiating.</strong> The team jointly engages in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect simple co-teaching approaches.</td>
<td><strong>(3): Emerging.</strong> The team jointly engages in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Lesson plans reflect some complexities of co-teaching.</td>
</tr>
</tbody>
</table>

**Rationale.** I scored the Math Team (2) because their lesson planning appeared to be solely led by the general education teacher and only reflected simple co-teaching approaches.

Pre intervention, Teacher C lays out the scope and sequence of the Algebra content for the year and Teacher D^ comments on how the proposed scope and sequence may be challenging for some students. This team meets after every class to debrief as well as weekly during a common planning period. This team also emails each other when needed.

This team engaged in limited variance from simple co-teaching approaches and seemed to only consider the supportive and complementary co-teaching approaches with Teacher C as the lead with their lesson planning.

**Variance from Self-Ratings.** My rubric score increased from (2) to (3), at outcome, as the Math Team’s partner processing aligns with ‘high’ individual and overall growth within this dimension. At outcome, each team member showed self-rating growth across all seven subdimensions of partner processing. These patterns of impact suggest growth in the Math Team’s ability to plan co-taught lessons.

Pre intervention, the Math Team appeared to engage in routines of collaboration, with Teacher C as the lead, facilitating the identification of student learning goals, lesson plan design, and pacing of lessons. On the pre interview, Teacher D^ explained:

*We already have a whole pacing for the whole year so I know what's coming up. My partner has already shared the pacing with me and we have the Google doc. So I'm able just to see and that way if I have an idea or like, oh, this is a hands-on activity we're gonna do or a project idea to follow up on.*

Teacher D^’s statement suggests that on the Math Team, collaboration was present, as she had an awareness of the upcoming lessons. However, Teacher D^’s role in shaping the lesson’s design appears limited. Nevertheless, the team’s willingness to collaborate looks strong.

Pre intervention, Teacher C stated:
We talk about the kids. We send an email. Usually my partner sends an email. I’ve been doing it... We talk about what’s coming, or what the assessment is going to look like, and how soon that’s going to happen, and what else we need to practice. What should they be doing? How creative should we be? We’re kind of throwing out ideas for what we could do to make the lessons more fun.

With further analysis of Teacher C’s comment: “We’re kind of throwing out ideas for what we could do to make the lessons more fun,” from the above block quote, suggests gaps in the Math Team’s knowledge of the various co-teaching instructional practices. Moreover, on the pre interview, Teacher D^ shared: “I think at this point we don't change much of how we're doing something. There's not a lot of change in our supportive lesson approach.” Similarly, Teacher C explained in her pre interview:

We have regular roles that we do. We don’t change that up. I think that keeps things consistent for us, and for the students too. If we felt comfortable switching it up, the students would probably be fine with it. It’s probably keeping things consistent for us to do that. Hopefully it’s not a bad thing for the kids.

In sum, though this team engaged in collaboration at baseline, the variety of the co-teaching approaches they employed were limited. Ultimately, I gave the Math Team a baseline score of (2) for partner processing, primarily based on the lack of joint planning and variance within their lesson plans.

At outcome, I assigned the Math Team a score of (3) for their partner processing as their post interview explanations suggested development in their co-planning of lessons and variance within their lesson plans. Post intervention, Teacher D^ described how their team made better use of their collaboration time, becoming more connected in the process:

Of course, we realize how less connected we were when you were there helping us keep time and everything...I mean I think using a time piece and having it broken up like how your planning protocol that you gave us. I think that will help us be more effective and efficient.

The “chart” that Teacher D^ references above is the Planning Protocol intervention tool (see Appendix E) that I provided to both teams during Module 2.

Post intervention, Teacher C also explained how their meeting time had become more productive:

Well, our planning time is much better now. I would say that’s a 4 (agree) because I think, before, it was, like, a 3 (neither agree or disagree). And then, after working on co-teaching practices with you, I think it's working its way—like, we realized how much room there is to improve there. I would say it's a 4 (agree), and hopefully, that'll just continue to improve.
Teacher C also affirmed a change in team behavior related to considering a variety of co-teaching approaches in the post intervention interview:

_I think that deciding which co-teaching approach to use for our students is a work in progress. I would say that's somewhere like—because we didn't before, and then after working with you, I think we are in process of making that happen. I would say it's around a 3. But I think, before we started working with you, that was probably more around a 1 or maybe a 2. I would say maybe, like, a 3, maybe even a 4 now because I know that we're working towards grouping and splitting students within our lessons and using a variety of co-teaching approaches, so somewhere in that range of higher than average._

In summary, while at baseline Teacher C simply emailed the unit and lesson plan with pacing to her partner for feedback with the loose agenda “of throwing out ideas,” by outcome the team had moved to engaging in a meeting protocol predicated on face-to-face dialogue.

**Impact Data Summary of Partner Processing**

Post intervention, both teams showed growth in partner processing in the form of ‘high’ self-ratings and investigator-rated rubric growth from (2) to (3). Additionally, both teams increased their self-ratings growth across all the seven partner processing subdimensions. Furthermore, both teams reported an increase in meeting productively, co-planning, and greater variance of co-teaching approaches within their lessons. Therefore, my analysis of the data suggests the following pattern of growth for both teams in the partner processing dimension: improved meeting productivity, joint planning of co-taught lessons, and consideration and use of various co-teaching approaches.
Dimension 3: Partner-Task Development

Partner-Task Development in the English Team

Table 4.9

Co-Teachers A and B^ (The English Team) Self-Rating Scores—Partner-Task Development

<table>
<thead>
<tr>
<th>Partner-Task Development Subdimensions</th>
<th>Co-Teacher A</th>
<th></th>
<th>Co-Teacher B^</th>
<th></th>
<th>English Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Outcome</td>
<td>Growth</td>
<td>Baseline</td>
<td>Outcome</td>
<td>Growth</td>
</tr>
<tr>
<td>1. We demonstrate flexibility during instruction.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>2. We utilize the expertise of others.</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3. We teach different groups of students simultaneously.</td>
<td>4</td>
<td>5</td>
<td>+1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. We identify the resources and talents of each other to support students.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5. We can use a variety of co-teaching approaches.</td>
<td>4</td>
<td>5</td>
<td>+1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. We identify student strengths and needs.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Totals (30 points max.)</td>
<td>26</td>
<td>28</td>
<td>+2</td>
<td>18</td>
<td>24</td>
</tr>
</tbody>
</table>

Key: Level by Growth Totals
1. Individual: ‘Low’ (1–4), ‘Medium’ (5–8), and ‘High’ (≥ 9)
2. *Overall Team: ‘Low’ (1–8), ‘Medium’ (9–16), and ‘High’ (≥ 17)

In the examination of Table 4.9 data, I observed a disparity between Teacher A and Teacher B^ at baseline. Pre intervention, Teacher A reported substantially higher rating score totals for partner-task development than her partner, a disparity that I have noted as a pre intervention disagreement.

At outcome, both Teacher B^ and the English Team showed ‘medium growth’ for this dimension. Post intervention, the English Team also showed less disparity between their rating scores, rating (4) (agree) or higher on five of six partner-task development subdimensions, a pattern of impact growth. Another impact pattern for the English Team was the growth of both co-teachers in the “we teach different groups of students simultaneously” and “we can use a variety of co-teaching approaches” subdimensions. Overall, the English Team’s rating scores for partner-task development at outcome suggests medium team growth, with particular growth around increasing the use of a variety of co-teaching approaches and employing lessons that require co-teachers simultaneously working with separate groups of students.
Table 4.10

English Team: Partner-Task Development Investigator Scoring Rubric

<table>
<thead>
<tr>
<th>Partner-Task Development Baseline</th>
<th>Partner-Task Development Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(2): Initiating.</strong> The team demonstrates the ability to identify the learning needs of students with and without disabilities. They may possess an awareness of multiple co-teaching approaches. The team primarily uses one co-teaching approach in the classroom with limited or no rationale.</td>
<td><strong>(3): Emerging.</strong> The team demonstrates the ability to identify the learning needs of students with and without disabilities. They possess an awareness of multiple co-teaching approaches. The team employs two to three different co-teaching approaches in the classroom strategically and with rationale.</td>
</tr>
</tbody>
</table>

**Rationale.** I scored the English Team (2) because they primarily use the supportive and complementary themes as their primary mode of co-teaching instruction.

The English team meets once per week for approximately 45 minutes to lesson plan. Despite these planning efforts, this team utilizes only two of the four possible co-teacher themes: supportive and complementary. These two co-teaching themes reflect simple co-teaching practices and low interdependent planning demands.

The English Team employs the supportive theme in their classroom via the “one teach, one observe” and “one teach, one assist” approaches. The English Team also uses the complementary theme of Teacher B^ interjecting when Teacher A leads instruction by paraphrasing Teacher A’s comments or asking clarifying questions while Teacher A lectures, as a method to make the content more accessible to all students.

**Variance from Self-Ratings.** My rubric baseline score of (2) did not align with Teacher A, though it did align with Teacher B^\(^\wedge\). Teacher A self-rated a pre interview score of 26, suggesting no intervention need. However, her partner self-rated a score of 18 at baseline. My outcome score of (3) aligned with the English Team’s and Teacher B^\(^\wedge\)’s self-ratings’ outcome growth of ‘medium’ as well as the growth of Teacher A and Teacher B^\(^\wedge\) on the subdimensions: we teach different groups of students simultaneously and we can use a variety of co-teaching approaches.

Pre intervention, the English Team appeared limited in their use of various co-teaching strategies, using only the supportive co-teaching approach with some complementary teaching. For this reason, I assigned this team a score of (2). Teacher B^\(^\wedge\) provided a pre intervention example of their co-teaching classroom as the following:

**Rationale.** I scored the English Team (3) because they expanded their co-teaching instruction beyond the supportive and complementary themes to include variations of the parallel co-teaching theme. This team also attempted all of the four co-teaching themes presented within the intervention by outcome.

Post intervention, the English Team continued to engage in collaborative practices. At outcome, this team expanded their use of a variety of co-teaching approaches.

Post intervention, in addition to using the supportive and complementary co-teaching approaches, the English Team also tried the parallel and team co-teaching themes. Pre intervention, the English team had not attempted the instructional strategy of co-teachers simultaneously teaching different groups of students.
Sometimes we’re really targeted with co-teaching. Like I’ll say go work with this kid. He really struggled with that. I’ll get these guys, and sometimes it’s like I can wander around and hit everyone. And my partner is really great one-on-one. She’s a great editor. She’s a journalist, and she’s a great editor.

At baseline, it was apparent that the English team viewed the strategy of providing students with one-on-one support as a viable one. However, this strategy does not leverage the full potential of the co-teaching framework. Teacher B\^ also explained on the pre interview: “I just think we use a few co-teaching approaches… supportive and complementary.”

At baseline, Teacher A reported that their team used a variety of co-teaching approaches, though her description of her team’s use of varying co-teaching approaches seemed limited. When discussing the topic of employing a variety of co-teaching approaches, Teacher A only highlighted how her team matches students’ personalities to her or her partner:

As the year progresses, we take advantage of the co-teaching in that there are certain personalities that work better with her and certain personalities that work better with me. And we tend to gravitate towards that so we know we’re helping kids in the best way we can.

At outcome, I assigned the English Team a (3). Overall, the English team grew across four subdimensions of partner-task development with both co-teachers showing growth on the following two subdimensions: we teach different groups of students simultaneously and we can use a variety of co-teaching approaches.

My analysis of the post interview suggested that the English Team grew in their ability to group students and work with groups of students simultaneously within the co-teaching framework. At outcome, Teacher A explained:

And the nice thing about our instruction is that the different groups of students constantly change. It’s not that my special education partner constantly works with special education students and I’m working with gifted students. Sometimes she takes a set of students because she sees something or I take a group, but we always want our students to know that you’re not hers and you’re not mine. There’s a constant flow to it.

Similarly, at outcome, Teacher B\^ stated:

We kind of teach different groups of students simultaneously. We try...what it would look like for us is we’d have these groups. We would have seven groups because I really liked triads. I really liked groups of three much better.

Post intervention, the English Team now engages in the practice of grouping students and teaching different groups of students simultaneously within their co-teaching lesson plans, which represents new co-teaching practices for this team and serves to justify my rubric outcome score of (3).
Moreover, on the post interview, when I asked these co-teachers to elaborate on their team’s use of a variety of co-teaching approaches, their responses suggested team growth in their ability to use a wide range of co-teaching approaches and employ co-taught lessons that demand greater partner-to-partner interdependence:

**Teacher B**: It’s more supporting and parallel i.e., putting students into groups...and I play a role in our lesson planning for the bright kids and the kids who are struggling and the average kids.

**Teacher A**: That during the intervention, we have tried all of the four co-teaching themes.”

Therefore, to justify my rubric score of (3), I used the co-teachers’ post interview explanations along with the English Team’s reported increase of using new strategies.
**Partner-Task Development in the Math Team**

Table 4.11

*Co-Teachers C and D^ (The Math Team) Self-Rating Scores—Partner-Task Development*

<table>
<thead>
<tr>
<th>Partner Task-Development Subdimensions</th>
<th>Co-Teacher C</th>
<th>Co-Teacher D^</th>
<th>Math Team</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Outcome</td>
<td>Growth</td>
</tr>
<tr>
<td>1. We demonstrate flexibility during instruction.</td>
<td>4</td>
<td>5</td>
<td>+1</td>
</tr>
<tr>
<td>2. We utilize the expertise of others</td>
<td>3</td>
<td>5</td>
<td>+2</td>
</tr>
<tr>
<td>3. We teach different groups of students simultaneously.</td>
<td>2</td>
<td>3</td>
<td>+1</td>
</tr>
<tr>
<td>4. We identify the resources and talents of each other to support students.</td>
<td>4</td>
<td>5</td>
<td>+1</td>
</tr>
<tr>
<td>5. We can use a variety of co-teaching approaches.</td>
<td>3</td>
<td>4</td>
<td>+1</td>
</tr>
<tr>
<td>6. We identify student strengths and needs</td>
<td>4.5</td>
<td>5</td>
<td>+0.5</td>
</tr>
<tr>
<td><strong>Totals (30 max.)</strong></td>
<td><strong>20.5</strong></td>
<td><strong>27</strong></td>
<td><strong>+6.5</strong></td>
</tr>
</tbody>
</table>

**Medium**

Key: Level by Growth Totals
1. Individual: ‘Low’ (1–4), ‘Medium’ (5–8), and ‘High’ (≥9)
2. *Overall Team: ‘Low’ (1–8), ‘Medium’ (9–16), and ‘High’ (≥17)

At outcome, Table 4.11 shows impact growth in partner-task development at the ‘medium’ level for Teacher C and for the Math Team overall. However, in contrast to her partner and team, Teacher D^ showed ‘low growth’ for this dimension. At baseline, the Math Team showed both individual and team growth across on four out of six subdimensions of partner-task development, as seen in Table 4.14. Post intervention, the Math Team improved in both partner-task development and across four subdimensions, results that can be seen in the outcome self-ratings data. Within my process data analysis I will examine the pattern of impact described above in order to determine the actual impact of the intervention.
### Table 4.12
Math Team: Partner-Task Development Investigator Scoring Rubric

<table>
<thead>
<tr>
<th>Partner-Task Development Baseline</th>
<th>Partner-Task Development Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(2): Initiating.</strong> The team demonstrates the ability to identify the learning needs of students with and without disabilities. They may possess an awareness of multiple co-teaching approaches. The team primarily uses only one co-teaching approach in the classroom with limited or no rationale.</td>
<td><strong>(3): Emerging.</strong> The team demonstrates the ability to identify the learning needs of students with and without disabilities. They possess an awareness of multiple co-teaching approaches. The team employs two to three different co-teaching approaches in the classroom strategically and with rationale.</td>
</tr>
</tbody>
</table>

**Rationale.** I scored the Math Team (2) because they primarily use the supportive co-teaching approach with some complementary co-teaching. The Math Team does not employ the strategy of grouping students within their instructional practice; this action reflects a limited understanding of the co-teaching framework.

Pre intervention, the Math team meets regularly to lesson plan, including after each co-taught class, a weekly meeting during a common prep period, and weekly email communications. Despite their rich collaborative efforts the Math team only employs the supportive co-teaching approach with some improvised complementary approaches from Teacher D^.

**Variance from Self-Ratings.** My rubric scoring of baseline (2) to outcome (3) aligns to the Math Team’s self-ratings of ‘medium growth’ with both co-teachers reporting growth on four out of six partner-task development subdimensions. At outcome, the Math Team reported an increase in their use of a variety of co-teaching approaches and the ability to leverage various aspects of the parallel co-teaching model within their classroom. Additionally, at outcome, a notable imbalance of rating scores exists, as Teacher C shows ‘medium growth’ with higher self-ratings compared to her partner’s ‘low growth’ and lower self-ratings for this dimension. I highlight this outcome disparity for process data analysis.

At baseline, the Math Team only employed the supportive co-teaching approach with some complementary teaching with Teacher A as the lead. However, as I have previously mentioned, these co-teaching strategies reflect a limited understanding and use of the co-teaching framework. Therefore, I used the Math Team’s limited understanding and use of co-teaching approaches to justify my baseline score of (2).

Reinforcing this rating, both Math Team members affirmed their team’s limited use of the possible co-teaching approaches in the pre interview:
Teacher C: I think we do complementary and supportive but we don’t do the other approaches.

Teacher D^: No…it's never groups. It's more like one will teach a bigger group and then one of us will do more individual...we've talked about splitting the class for two years and just had never done it.”

Post intervention, I gave the Math Team a rubric score of (3). On the post interview, Teacher C discussed how her team grouped students into small and large groups, worked simultaneously with different groups of students, and grouped students into stations, co-teaching concepts not discussed at baseline by this team:

Grouping students doesn't always happen. I'd say that's, like, a 3. But we do try to do that. We do try to do that. We've done that kind of with that method that's sort of our own sort of thing where we pull somebody out. We might pull two people out to work with them separately, and then the other person has the class, and we've taken turns doing that. And we've tried the parallel the approach of stations, and we might do that more this coming year. So I think that that's a work in progress, and that's probably at around a 3.

Teacher C discussed why she increased her rating from a baseline, (3), to outcome, (4), related to her team’s ability to use a variety of co-teaching approaches in the post intervention interview:

I would say we can use a variety of co-teaching approaches as a 4 agree because I know we can, like, hypothetically, I know we can. But I think this coming year; it'll be more like a 5 strongly agree when we realize that we've done it and that we can continue to do it. So I think it's only gonna get better, but I think, at the moment, we're probably at a 4. We have tried some.

Similarly, Teacher D^ confirmed her partner’s sentiments in the post interview that the team now had an interest in designing more co-taught lessons that involve the grouping of students to enhance their instruction when needed. Additionally, Teacher D^ referred to the co-teaching instructional strategy of lowering class size by dividing the class into two groups for each co-teacher:

We’re both interested in doing more lessons with students in split groups and I think, again, there’s more of a desire to do more small group or breaking into teams so in a sense there’s more direct feedback.

The change in practice of the Math Team splitting the class into separate groups for each co-teacher represented a major shift in team behavior. Previously, in regard to co-teaching approaches used in the classroom Teacher D^ had stated: “No…it's never groups.”

In sum, I justify the Math Team’s outcome score of (3) for the dimension of partner-task development based on this team’s expansion of co-teaching approaches beyond the supportive and complementary models. Post intervention, this team appeared to engage in more parallel co-teaching practices in the form of using alternative and split class co-teaching approaches (see Appendix A) within their lessons. Additionally, by outcome, both co-teachers reported shared
interest in engaging in more parallel themed lessons, with Teacher C expressing optimism in her team’s ability to increase their use of a variety of co-teaching approaches in the forthcoming school year.

**Impact Data Summary of Partner-Task Development**

Post intervention, both the English and Math teams judged growth of ‘medium’ in their self-ratings and received a growth in the investigator rating from (2) to (3). At outcome, a pattern of impact for all co-teachers represented growth on the partner-task development subdimensions: we teach different groups of students simultaneously and we can use a variety of co-teaching approaches. Another pattern of impact for these teams was an expansion in their ability to use co-teaching models beyond the supportive and complementary models. At outcome, all of the participants reported an increase in the engagement of parallel themed co-taught lessons and experimentation with co-teaching approaches beyond the supportive and complementary models. Furthermore, both teams expanded their repertoire of co-teaching to include more parallel theme lessons. Post intervention, both teams also attempted co-teaching approaches beyond the less demanding supportive and complementary models. Finally, both teams expressed improvement in the ability to use a variety of co-teaching instructional practices, especially with regards to designing and engaging in lessons that require them to work with different groups of students at the same time.

**Impact Data Summary**

The goal of this study was to examine an intervention to improve the planning and instruction of co-teacher teams by developing each team’s interpersonal dynamics, partner processing, and partner-task development skills. To measure the impact of the intervention, I examined its effect on two teams, an English and Math Team. Prior to the study, neither team maximized their collaboration time, their exchange of expertise, or the instructional aspects of the co-teaching framework. By outcome, both teams had altered their planning and exchange of expertise to embed more complex co-teaching methods within their practice. Furthermore, at the outcome of the study, both teams appeared motivated to widen their use of various co-teaching methods.

I measured the impact of the intervention by analyzing self-ratings by the participants and employing a 4-point scale investigator rubric. As a result, examination of the impact data suggests a pattern of low, medium, and high impact for the interpersonal dynamics, partner processing, and partner-task development, for both teams. For each dimension, the teams moved from a rubric score of (2) at baseline to (3) at outcome, with the exception of interpersonal dynamics dimension for the Math Team. Table 4.13 represents a summary of the impact data.
Table 4.13

Summary of the Impact Data

<table>
<thead>
<tr>
<th>Dimension of Co-Teaching Dynamics</th>
<th>Team</th>
<th>Self-Ratings Overall Growth at Outcome</th>
<th>Rubric Scores Growth Baseline → Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Dynamics</td>
<td>English</td>
<td>‘Low’</td>
<td>(2): Initiating → (3): Emerging</td>
</tr>
<tr>
<td>Partner Processing</td>
<td>English</td>
<td>‘High’</td>
<td>(2): Initiating → (3): Emerging</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>‘High’</td>
<td>(2): Initiating → (3): Emerging</td>
</tr>
<tr>
<td>Partner-Task Development</td>
<td>English</td>
<td>‘Medium’</td>
<td>(2): Initiating → (3): Emerging</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>‘Medium’</td>
<td>(2): Initiating → (3): Emerging</td>
</tr>
</tbody>
</table>

Interpersonal Dynamics Summary

This intervention is designed to promote interpersonal dynamics by growing a team’s ability to engage in active goodwill in and out of the classroom while engaging in full disclosure of concerns. At baseline, the Math Team exhibited ‘high’ levels for this dimension while the English Team did not. Additionally, the English Team demonstrated stable levels of cooperation and participation at baseline with limited disclosure of their actual interest.

At outcome, my analysis of the impact data suggests that the English Team implemented a new strategy to discuss non-superficial concerns related to their co-teaching assignment as well as disclosing their interests in ways to enhance their planning and instruction. Furthermore, at outcome both co-teachers on the English Team reported improvement in the following interpersonal dynamics: giving classroom feedback, communicating concerns freely, and having a process for conflict resolution. Through the investigator rubric, I noted improvement in this team’s ability to disclose and discuss their concerns. Moreover, I saw that the English team now had a designated section of their collaboration time devoted to discussing their actual interests. I also observed growth in their sharing of concerns when designing their co-taught lessons.

At baseline, the English team represented a well functioning unit with disclosure issues that limited their ability to leverage the full potential of the co-teaching framework. By outcome, my analysis of the impact data indicated an increase in the English Team’s sharing of concerns to make the curriculum more accessible to all students or rubric level (3). As stated earlier, the Math Team’s high level of interpersonal dynamics from baseline to the outcome made determining the impact of the intervention for this case insubstantial.

Partner Processing Summary

Within the partner processing dimension, the intervention’s desired result is the development of partner-to-partner exchange of expertise as well as enhancement of the consideration of a variety of co-teaching instructional strategies when jointly planning lessons. Pre intervention, both teams lacked the needed structure to maximize the sharing of their
Inclusive-Minded Planning for Adept Co-Teaching (IMPACT) expertise and design variance during voluntary lesson planning times. At baseline, these teams’ lesson plans reflected the instinctive and less interdependent instructional strategies of the supportive and complementary co-teaching approaches. At outcome, both of these teams enacted a planning protocol, inclusive of suggested time limits, to discuss teacher and student issues, overall learning objectives, the consideration of various co-teaching models, co-teacher roles and responsibilities for the lesson, and reflection on the planning period. Moreover, my analysis of the impact data showed an increase for both teams in the consideration of less instinctive and more interdependent instructional strategies such as putting students into groups for the co-teachers to work with separately and experimenting with unfamiliar co-teaching approaches.

These shifts in the English and Math teams’ behavior aligned with overall team self-ratings at the high level and investigator rubric assigned scores of (2) to (3) at outcome for both of these teams. At baseline, both of these teams engaged in loose collaboration practices when designing their co-taught lesson and, for the most part, only considered two co-teaching approaches when designing their lessons. At outcome, these two teams tightened their collaboration practices and broadened their attention, shifting from straightforward co-teaching instructional strategies to other pedagogical approaches in order to create lessons that better utilized the co-teaching framework.

### Partner-Task Development Summary

Partner-task development corresponds to the variety co-teaching instructional practices employed within the classroom to enhance student learning. The goal of the intervention for this dimension is to build the capacity of the co-teacher team to use the full range of available co-teaching instructional approaches. At baseline, as discussed in the previous section, both of these teams primarily employed simple instructional strategies such as supportive and complementary co-teaching approaches.

By outcome, I noted an expansion of both team’s co-teaching approaches to include the more complex parallel model within their classroom instruction. In addition to expanding their co-teaching repertoires, at outcome, both teams designed lessons that integrated an aspect of each major co-teaching theme and expressed interest to deepen their ability to use all of the co-teaching variations in the near future. To this point, the teams self-rated their growth at the medium level while my investigator score represented rubric growth from (2) to (3) emerging for each of these teams. By outcome, these co-teachers’ classrooms reflected the instructional practice of grouping students strategically as well as experimentation with all of the main co-teaching themes (see Appendix A). Finally, each team indicated motivation to build their capacity to employ a variety of co-teaching variations.

### Variance and Patterns of Growth

The analysis of the intervention’s impact data suggests similar variance and growth patterns across the proposed dimensions. At outcome, the teams showed the highest impact growth for partner processing and the least for interpersonal dynamics. Therefore, the intervention seems most effective in developing the co-teacher dynamic of partner processing. I hypothesize that the observed growth patterns at outcome reflect a positive correlation between
the extent the intervention’s design provided the teams with opportunities for experiential learning, application, and reflection of concepts within a dimension from baseline to outcome. Next, I examine my hypothesis through a presentation and analysis of the study’s process data.

**Process Data Findings**

In design research, process data allow researchers to explain the extent that an intervention influences the participants towards the desired outcome (R. Mintrop, 2016). The process data for this study represented data collected from six modules, 60–75 minutes in length, designed to improve co-teacher team planning and instructional practices by developing the participants’ capacity along three dimensions: interpersonal dynamics, partner processing, and partner task development. The modules were embedded within the established common planning period during participants’ normal workday and held at Mountain High School (MHS), the participants’ workplace. The intervention’s process data also included a total of four debrief interviews (see Appendix B), less than 10 minutes in length. Debriefs were held with each co-teacher privately at the school site or over the phone, after modules 1, 2, 3, and 4, but before the next module occurred.

Notably, after I conducted the pre interviews at baseline, I changed my original plan to hold the modules every 2 weeks to every 7 to 10 days. I made this augmentation in an attempt to increase the frequency and intensity of the intervention. I felt that conducting the modules every other week would lack the needed duration of focus for the intervention to work.
Table 4.14

**IMPACT Intervention Overview with Learning Objectives (See Appendix D for more details)**

<table>
<thead>
<tr>
<th>Module (#): Description</th>
<th>Learning Objectives Summary of IMPACT Treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1): Co-Teaching Awareness</td>
<td>a) overview of the intervention b) improve team communication skills, and c) deepen knowledge of norms during planning, the definition of co-teaching and the supportive approach</td>
</tr>
<tr>
<td>Debrief #1</td>
<td>Intervention Post-Module Questions (see Appendix B)</td>
</tr>
<tr>
<td>(2): Co-Teaching Awareness &amp; Practice</td>
<td>a) examine co-teaching responsibilities, b) deepen knowledge of differentiation actions during instruction, c) expand knowledge of the parallel approach, and d) co-teaching lesson planning practice</td>
</tr>
<tr>
<td>Debrief #2</td>
<td>Intervention Post-Module Questions</td>
</tr>
<tr>
<td>(3): Co-Teaching Awareness &amp; Practice</td>
<td>a) grow understanding of co-teaching variations, b) expand knowledge on how to create lesson plans to meet students’ learning needs, and c) co-teaching lesson planning practice</td>
</tr>
<tr>
<td>Debrief #3</td>
<td>Intervention Post-Module Questions</td>
</tr>
<tr>
<td>(4): Co-Teaching Awareness, Gracious Space &amp; Planning</td>
<td>a) exposure to a framework to deal with interpersonal conflict, b) deepen the understanding of the team approach and the use of various co-teaching approaches, and c) co-teaching lesson planning time</td>
</tr>
<tr>
<td>Debrief #4</td>
<td>Intervention Post-Module Questions</td>
</tr>
<tr>
<td>(5): Co-Teaching Planning</td>
<td>a) co-teaching lesson planning time and b) introduction to co-teaching team reflection tools</td>
</tr>
<tr>
<td>(6): Co-Teaching Reflection &amp; Presentation</td>
<td>a) teams will reflect on their co-teaching planning and instructional practices and b) present their perspective on what teams need to do to engage in effective co-teaching</td>
</tr>
</tbody>
</table>

**Outcome**

<table>
<thead>
<tr>
<th>Post Interviews (see Appendix C)</th>
</tr>
</thead>
</table>

**Process Data—Organization**

I organized the process data by following Mintrop’s (2016) suggestion to chunk as a strategy to capture how the inner workings of the intervention’s activities influenced the participants. To employ this strategy, I chunked the process data into four distinct sections.

The purpose of chunk one, Module 1: Awareness, emphasized on how the intervention’s activities provided psychological safety and intrinsic motivation for the participants to fully engage in the intervention. Chunk two, Modules 2 and 3: Awareness & Planning Practice, focused on the experiential learning aspects of the intervention around co-teacher planning. Within the chunk three, Module 4: Awareness, Gracious Space, and Planning, the theme
represented a continued emphasis on the experiential learning of co-teacher planning and introduced the participants to a framework to deal with interpersonal conflict. Chunk four, Modules 5 and 6: Planning & Reflection, centered on the participants reflecting on their co-teacher practices.

For each chunk, I provide a summary of the learning objectives associated with its one or more modules and the module’s main activities and learning expectations for the team. I follow these sections with a discussion on what occurred during the activities and an analysis of critical learning incidents for the participants. I end each chunked section with an analysis discussion of the process data and a discussion that notes if the learning objectives for the one or more modules of the chunk were met or not.

**Chunk One, Module 1: Awareness**

**Learning Objectives**

The learning objectives of Module 1 encompassed the participants deepening their awareness of the intervention’s design, strategies to facilitate co-teacher communication, team interdependence, and the varying complexities of co-teaching. The activities for Module 1 focused on developing the teams’ capacity, on varying levels, across the dimensions of co-teacher dynamics proposed in the study: interpersonal dynamics, partner processing, and partner-task development.

**Learning Goals and Expectations**

The goals and expectations for Module 1 embodied three major learning outcomes for the teams: generate continued team motivation for voluntary participation in the intervention, grow the teams’ ability to communicate openly and interdependence, and expand team knowledge of the complexities of co-teaching with an emphasis on the supportive approach. See Table 4.15 for Module 1’s main activities for the teams and corresponding expectations for learning.
Table 4.15
*MMain Activities and Learning Expectations*

<table>
<thead>
<tr>
<th><strong>Main Activities</strong></th>
<th><strong>Expectations for Learning</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a team welcome and overview of the activities to expect over the course of the intervention.</td>
<td>Learn that the intervention is designed to complement their current co-teaching assignment.</td>
</tr>
<tr>
<td>Reflect on activities that present strategies on how to promote clear communication between partners.</td>
<td>Understand that working within a dual teacher framework requires team building and the unique communication strategies and structures.</td>
</tr>
<tr>
<td>Review written definitions of co-teaching from the knowledge base.</td>
<td>Recognize that the co-teaching framework demands high partner-to-partner interdependence in both planning and instruction.</td>
</tr>
<tr>
<td>Review simple and complex co-teaching frameworks via videos and supporting written materials.</td>
<td>Acknowledge that their team is embracing simple co-teaching practices as opposed to complex ones.</td>
</tr>
<tr>
<td>Engage in a structured, experiential learning activity that is designed to promote the sharing of individual and team expectations.</td>
<td>Expand the ability to discuss team expectations and disclose individual concerns openly and develop shared team goals.</td>
</tr>
<tr>
<td>View supportive and complementary co-teaching videos and encourage team experimentation.</td>
<td>Deepen the teams’ motivation and capacity to engage in variations of simple co-teaching practices.</td>
</tr>
</tbody>
</table>

What Occurred

The Opening

At the opening of Module 1, I focused on trying to make the two teams feel psychologically safe. I gave the teams an overview of the intervention’s activities, while projecting the overview on a screen and giving each co-teacher a binder with a diagram of the complexities of co-teaching with supporting text as the front cover (see Appendix A). I used an Internet application to allow each of the participants Internet access to the provided materials. After these opening activities, and asking if there were any questions, the participants responded:

**Teacher A:** No questions...We’re good.

**Teacher B**\(^\ast\): Yeah. Yeah. I love this diagram on the complexities of co-teaching.
Teacher D\textsuperscript{^}: This diagram on the complexities of co-teaching is excellent.
Teacher C: This diagram on the complexities of co-teaching is very helpful.

Team Building—Listening, Values & Norms

Next, the teams participated in team building activities, the Listening Dilemma and Core Values activities (See Appendix F). These activities foster the development of meaningful and open team communication. For the Listening Dilemma activity, the teams discussed an infographic that suggested that effective listening relies on the ability to paraphrase, repeat, probe, clarify, and remember. During the reflection phase, the participants were asked to relate their thoughts to their daily work, and the following comments were made:

English Team
Teacher B\textsuperscript{^}: My partner needs to ask for clarifications... I tend to ramble.
Teacher A: I think we do a good job of getting things clarified—one of the things we do somewhat well is circling back to the point.

Math Team
Teacher C: I probably should try to paraphrase back to you what I think I heard so that you know whether or not I got it.
Teacher D\textsuperscript{^}: I appreciate that you’re willing to give me those reminders because I don’t know. If I think I was you, I’d be frustrated with me by now.

The Core Values activity consisted of teams determining their two core values, from a predetermined list of core values, the participants could also add non-represented core values to the predetermined list, to share with their partner. At the end of this activity, all of the participants openly shared that their core values represented “family” and “integrity” in their personal and professional lives. In all cases, team members disclosed their individual core values with hesitancy, but also appeared relieved and affirmed to learn that they shared the identical core values as their partner:

English Team
Teacher A: I think the family part plays in the classroom also when we’re up front, and we’re talking to the kids.
Teacher B\textsuperscript{^}: I think it’s clear there’s a bond between us...personal and professional

Math Team
Teacher C: ...we kind of expose our integrity sometimes when we ask each other questions if we don’t understand.
Teacher D\textsuperscript{^}: ...I think these concepts of family and integrity are in our class...

Next, the teams participated in the Module 1 Norms activity. The Norms activity reflected the team members jointly reviewing five factors—time, listening, confidentiality, decision-making, and participation (see Appendix F) to help determine what norms their team would agree to have in place for their meeting and planning time. After providing the participants a norm guidelines document developed by Richardson (1999), both teams discussed
and reviewed the topics of time, listening, confidentiality, decision-making, and participation to reaffirm or establish new norms for their team. For example, while reviewing the prompts “How will we encourage listening?” And “How will we discourage interrupting?” the English Team stated:

**English Team**

*Teacher A:* ...sometimes I think you present ideas and I listen, but I’m not sure that I’m giving you your full time to present an idea.

*Teacher B:* Okay. Let’s put encourage listening and discourage interrupting on our norm’s list.

When the Math Team reviewed the prompt, “When do we meet for co-planning/reflection?” the Math Team acknowledged the need to re-establish and norm their meeting time for more substantive planning:

**Math Team**

*Teacher C:* in addition, to us meeting right after class for our debrief, let’s—try for Thursdays for our long planning period. And if Thursday doesn’t work for you then Tuesdays?

*Teacher D:* Yeah. Let’s do like 2:00 p.m. to 3 pm during our common planning time so we can meet more often on a regular basis.

At the completion of the Norms activity, the teams had established some new norms for their meeting and planning time through a process of joint discussion and shared agreement.

**The Complexities of Co-Teaching**

The next activity involved the teams reviewing, discussing, and reflecting on the following videos: Villa’s (2004) A Guide to Co-Teaching Practical Tips for Facilitating Student Learning: a) What is co-teaching, and b) Why co-teaching? These videos presented information on the roles of the general educator and the special educator, the interdependent nature of the co-teaching relationship, and the various complexities of co-teaching (see Appendix A).

Before showing these co-teaching video clips to the teams, I outlined the differences between the most prominent co-teaching variations within the knowledge base. After reviewing the video clips both teams admitted that they were mostly or solely engaging in simple co-teaching methods. The reflective conversation for the English team after the above activities represented the following:

**English Team**

*Teacher B:* Yeah. I do think we could be stronger in certain areas. We don’t do as much teaming—team co-teaching and...we don’t split the class up much. I feel like we’ve rarely done this.

*Teacher A:* That’s why it’s great to see this video.

*Teacher B:* I think we are more of a supportive, complementary...
Teacher A: ...we could definitely do more alternating too. A way for teachers to learn from each other and for students to gain knowledge and expertise of two teachers both engaged in the instructional process.

Developing Interdependence

After the first phase of viewing videos, I had the teams engage in activities to facilitate interdependence. First, I had the participants review definitions of co-teaching from the knowledge base. I then asked the teams to create their own definition of co-teaching. After, I had the teams use a worksheet called Sharing Hopes, Attitudes, Responsibilities, and Expectations (S.H.A.R.E.) (see Appendix F), adapted from the work of Murawski and Dieker, (2004) as an instrument to develop co-teaching team interdependence.

I presented the S.H.A.R.E activity to each of the teams as a tool that co-teachers use to strengthen their relationship. The teams’ engagement seemed high, measured by my observation of focus and quiet in the room while each team reviewed each of the prompts, followed by active listening behaviors of eye contact and clear taking of turns speaking by each of the team members. During this activity, the nature of the conversations reflected the following:

English Team
Teacher B: Okay...I don’t want to be known as the helper and...my biggest obstacle with co-teaching...it’s kinda planning prepping – yeah, prepping in confidence in really what is the good tool.
Teacher A: I feel the biggest challenge is you know...is planning so there is rigor–there’s no difference in the rigor in that class than there is in any other English class.

Math Team
Teacher C: My hope I have is to reach everyone...It’s very challenging...I don’t know how to plan for this...I’ve got to depend on you.
Teacher D: No. It’s – that’s super difficult. But, what I love about this year is that we have the after class to talk.
Teacher C: ...I’m wondering if we can continue to talk more during our sixth period planning time.
Teacher D: I think we can make that work now that we realize we need to plan more.
Teacher C: Maybe we should get more specific in our goals and maybe more specific with goals for certain students.

Supportive and Complementary Co-teaching

Module 1 ended with the viewing of short video clips focused on supportive and complementary co-teaching from Villa’s (2004) A Guide to Co-Teaching Practical Tips for Facilitating Student Learning. Both teams acknowledged the use of supportive co-teaching within their own practices and identified some of the supportive practices that they use or should use more frequently in their own classrooms. The Math Team also specifically discussed, during this period of the module, an interest in trying some new co-teaching instructional practices:
Math Team
Teacher D^: After viewing the videos, I thought to myself, we’re more supportive.
Teacher C: We were totally doing complementary co-teaching.
Teacher D^: Yeah...I feel like we are supportive with a complementary aspect. And, I know we keep saying this, but I’m definitely interested in trying to do some different co-teaching variations.
Teacher C: I agree with you... And, I want to try some other co-teaching approaches.
Teacher D^: Yeah. It is time for us to branch out and find out.

I ended Module 1 by emphasizing and encouraging the teams to look for opportunities to experiment with the supportive or complementary co-teaching approach within their upcoming lessons.

Analysis of Critical Learning Incidents

Building of Awareness

I interpreted that, overall, both of the teams seemed aware, comfortable, and open to the intervention’s scope, sequence, and design. Additionally, during this segment of the intervention the teams learned more about their strength and growth areas related to their complexities of co-teaching expertise. At this point in the intervention, the participants understood that they needed to grow their team’s co-teaching instructional practices as a unit.

Concerning the learning from Module 1’s team building activities both teams appeared to make some noteworthy gains in the desired attributes of building goodwill, team interdependence, and productive communication. During Debrief 1, the English Team referenced the core values activity as follows:

English Team
Teacher A: ...the core values activity...it was nice not only to do the core value activity for myself but for me to think about what my partner brings to the table.
Teacher B^: it was good to go through the values thing, to kind of remember who we are—who I am as an individual, and who she is. What we’re about on a deeper level. I think that was good.

The Math Team, similar to the English Team, discussed the relationship-building benefits of the Core Values activity during Debrief 1. Additionally, each Math Team member, equally and independently, referenced either ideas or conversations from the Listening Dilemma Activity from Module 1 related to learning about understanding how to communicate more effectively:

Teacher D^: And then the communication...Like, about we hear 1,000 words a minute. We speak 150, hear 1,000, so what’s happening in between all that.
Teacher C: My co-teacher partner ...told me something...But I said to her – and it was kind of...complicated. So I said to her, let me repeat back to you, what I think you said...I haven’t done that before. I’ve usually...said, oh, okay.
Also, both of these teams spent quality time not only learning about their partner’s core values and communication preferences, but clarifying or determining new agreements on all of the norms activity’s topics for consideration. Hence, during the Module 1 portion that focused on norms development, both of these teams established new norms to strengthen their ability to work together during planning time. During Module 1, the English Team established new norms for listening, while the Math Team created new agreements for when, where, and how long to meet for lesson planning purposes. What occurred during Module 1 suggested that these teams needed scaffolding and facilitation to engage in and learn the norm development process.

**Building Motivation for Learning**

Overall, the opening intervention activities appeared to promote the appropriate level of discomfort and psychological safety to motivate the teams to continue their participation in the intervention to grow their co-teaching practice. The intervention’s activities related to bringing the awareness of the variations of co-teaching instructional practices within the knowledge base is the key factor in motivating these teams to expand their instructional practices. To illustrate, during Debrief 1, the English Team referred to Module 1 diagram on the complexities of co-teaching in the following manner:

*English Team*

*Teacher A*: In looking at those models from the complexities of co-teaching infographic—See Appendix A, ...I think that participating in this intervention is going to expand, I think, our teaching.

*Teacher B*: The visual display of the complexities of co-teaching was kind of good for me to see, Now, I see that we can do more.

In parallel, during Debrief 1, Teacher D, the special educator on the Math Team, stated:

*Teacher D*: I think this workshop is going to help us to pinpoint what to focus on...and I think again, it’s helping us—it’s gonna help us articulate what methods or what changes we’d like to make.

Additionally, during the closing of Module 1, both members on the Math Team expressed interest in exploring co-teaching practices outside of their normal routine:

*Teacher D*: ...I’m definitely interested in trying to do some different co-teaching variations.”

*Teacher C*: “I agree with you... And, I want to try some other co-teaching approaches.”

**Participation and Growth**

From my analysis of Module 1, I conclude that all of the co-teachers participated fully in the modules’ activities. And, as a direct result of their participation, the teams engaged in the intended outcome conversations around improving their communication, establishing team norms, and working jointly to learn more about and expand their use of the complexities of co-teaching.
Overall, my analysis of the process data suggests that the Module 1 activities outlined the scope and sequence of the intervention for the participants and influenced the teams to maintain continued motivation for voluntary participation in the intervention, develop norms to improve their communication and teamwork, and expand their team's co-teaching expertise. Additionally, I suggest that the teams met the learning objectives of the participants deepening their awareness of the intervention’s design, strategies to facilitate co-teacher communication, team interdependence, and the varying complexities of co-teaching.

In sum, after both teams completed Module 1, they appeared to experience growth in their interpersonal dynamics by practicing goodwill and disclosure, their partner processing by establishing norms to improve their communication and planning meetings, and their partner-task develop by building awareness of their complexities of co-teaching areas of strength and areas for growth.

Chunk Two, Modules 2 and 3: Awareness & Planning Practice

Learning Objectives

The learning objectives of Module 2 centered on building team awareness and understanding of the need to assign roles and responsibilities to develop coordination and interdependence, understand the many facets of parallel co-teaching, and recognize the value of employing a structured routine when lesson planning. Module 3 learning objectives included a deepening of team knowledge and practice of the parallel co-teaching approach and using a structured agenda to create lessons for the co-taught classroom.

Learning Goals and Expectations

The short-term learning goals and expectations of these modules were for the teams to grow their ability to use the assignment of roles and responsibilities to develop coordination and interdependence as well as the ability to use regularly the parallel co-teaching model in their practice. The final learning outcome of these two modules together reflected the teams co-planning lessons that draw on the supportive, complementary, and parallel co-teaching approaches.
Table 4.16

**Modules 2 & 3: Main Activities and Learning Expectations**

<table>
<thead>
<tr>
<th><strong>Main Activities</strong></th>
<th><strong>Expectations for Learning</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflect on literature and video on the benefits of co-teaching. <em>(Module 2)</em></td>
<td>Understand that exchange of expertise during planning and instruction is vital to actualize all the benefits of co-teaching</td>
</tr>
<tr>
<td>Engage in the designation of co-teaching roles and responsibilities within their team. <em>(Module 2)</em></td>
<td>Recognize that assignment of roles and responsibilities is critical for maximizing team coordination and performance.</td>
</tr>
<tr>
<td>Reflect on literature that outlines differentiation strategies to support various co-teaching approaches. <em>(Modules 2&amp; 3)</em></td>
<td>Understand that specific instructional actions optimize particular co-teaching approaches</td>
</tr>
<tr>
<td>Reflect on literature and video on the various aspects of parallel co-teaching. <em>(Modules 2 &amp; 3)</em></td>
<td>Improvement in the team’s ability to determine a parallel approach for integration into their lesson plans to enhance the learning experience for all students, especially struggling learners.</td>
</tr>
<tr>
<td>Co-construct a multi-day lesson plan via a structured routine for their shared assignment. <em>(Modules 2 &amp; 3)</em></td>
<td>Know how to co-plan lessons that meets the learning needs of students, team concerns, and team capacity, and considers the supportive, complementary, and parallel co-teaching variations.</td>
</tr>
</tbody>
</table>

**What Occurred**

**Team Reflection**

Module 2 lasted approximately 70 minutes for each team and occurred seven days after Module 1. During this module, I had the teams reflect on their practice since Module 1. The English Team reflected on how last week was a powerful teaching week and how they used the supportive co-teaching approach. The team discussed that their powerful teaching week was perhaps related to experiencing Module 1 as a Team or other school related activities. The team also discussed how the intervention is competing with their set planning time:

*English Team*

**Teacher A:** I mean, I don’t know if it’s directly related to the Module 1 core values activity but we had a powerful week teaching.
**Teacher B**: However, what’s for me is getting problematic or worrisome in that this time is our usual planning time. Learning about the co-teaching theories is good but what about the lesson planning.

**Teacher A**: I would say, last week, that we did not use the co-teaching theories from module 1 in a structured way...however, we did use some concepts from Module 1 just through the transference of information.

**Teacher B**: Yes, last week, we did the supportive co-teaching model...normally my partner, Teacher A usually conducts and I’m the supportive. But, I really led the lesson, and she played the supportive role...she was going around to students having little private talks and utilizing her expertise of the curriculum...that was great.

The Math Team’s reflection consisted of a conversation related to new thoughts on what types of actions should occur during the supportive co-teaching approach:

**Math Team**

**Teacher C**: When we used supportive co-teaching last week, I was thinking differently because I realized when you’re leading the class, I am only listening to you...What should I be doing to support you?

**Teacher D**: I never thought about that before, but you’re right...like if you heard something wrong you’ll be able to tell from how I’m going over it, you can interject by writing on the board.

**Teacher C**: Right. So maybe I could do that, too, because I like to do that. I like to write on the board. And I can do that when you talk. I can make sense of it for the students.

**Building Coordination & Interdependence**

Next, both teams participated in a series of intervention activities to grow their coordination and interdependence. These activities for the teams represented the following: review of video and reading materials on “Co-teaching Benefits” and “Why Co-teach” by Villa et al. (2004), a team activity of assigning levels of roles and responsibilities (see Appendix G), and review of a document on co-teacher actions to “Differentiate Instruction” by Villa et al., 2004 as cited from Murawski and Dicker, (2004).

After the “Benefits of Co-teaching” and “Why Co-teach” activities that emphasized the concept of co-teachers exchanging their expertise during planning and instructional time, the following conversations ensued:

**English Team**

**Teacher A**: All the kids benefit from co-teaching...For example, my partner would tell me this is what the students think you’re saying, so for me it’s like oh, no that was not the intent...and, so getting critical feedback on how to reach more kids is the reason why to co-teach.

**Teacher B**: I think co-teaching is really important...the level of student engagement increases, when we’re both there.
**Math Team**

*Teacher D*: Four eyes are better than one set of eyes because when you’re teaching...you can’t have both your eyes on the entire class...

*Teacher C*: It’s helpful...there’s another adult in the room to just fill in those gaps of concepts not completely explained.

Next, both of these teams participated in the “Assigning of Roles and Responsibilities” activity. The team discussions that occurred during this activity represented the following:

**English Team**

*Teacher B*: You’re the primary for the content teacher role.

*Teacher A*: What about who determines study skills and learning strategies? Where are we on this?

*Teacher B*: I try to be that...I think we’re kinda equal on this...I also think we’re both equal in planning instructional activities to achieve the goals.

*Teacher A*: I agree.

**Math Team**

*Teacher D*: I’m surprised at how many roles and responsibilities that you feel we are equal...on my list there are six items that we’re equal on...eight items that you’re the primary...and one item that I’m the primary.

*Teacher A*: The first one and then these two teach these skills because I feel like that’s what you do – I’m not saying that you –

*Teacher D*: No, no, no. That’s the only one I’ve said I was primary at.

Moreover, as the teams continued to move through the Module 2 activities designed to build their coordination and interdependence, after reviewing the document that listed a number of suggested co-teacher actions to engage in during instruction, the teams responded:

**English Team**

*Teacher A*: We do all these things listed here.

*Teacher B*: Yeah.

**Math Team**

*Teacher D*: We do a lot of these things on this document already–but the thing we keep talking about is this idea shown here of grouping students but we do not do it.

*Teacher C*: Right...I think there is hesitation on my part for us to group students.

*Teacher D*: ...Yeah, I think the only thing–I don’t know is how will we get new instructional practices in this year...I would like to try a group type thing.

**Parallel Co-Teaching Growth**

The next phase of Module 2 targeted parallel co-teaching development. To recap, my analysis of the baseline data indicated that both these teams, for the most part, solely exercised the supportive and complementary co-teaching approaches. Therefore, to grow these teams’ ability to vary and enhance their co-teaching instructional practice, these teams were tasked to
analyze a series of video clips on parallel co-teaching from *A Guide to Co-Teaching Practical Tips for Facilitating Student Learning* (Villa, 2004). The video clips showed variations of the parallel co-teaching approach in elementary, middle, and high school classrooms. Both teams watched and provided feedback after viewing these video clips:

**English Team**

*Teacher A:* I’m wondering what the kids are doing when they’re not at those stations with one of the co-teachers. Are they having a response within the group without the teacher present? Are they waiting for the teacher?

*Teacher B*: Mm-hmm. How do they monitor the students to make sure that they really are talking to their partner? Did the student really check in and work with their partner and then monitor the students also? Yeah.

**Math Team**

*Teacher C:* Well, within the parallel approach...the kids are getting more attention...they’re actually working in split groups led by each co-teacher and the students are getting more attention than they would with one person instructing.

*Teacher D*: So they had the teaching stations and the elementary one and then in the middle school she basically said I’m gonna take care of these students so they split the class...and then the Biology one in the high school seemed like it was just more like two groups.

*Teacher C:* It seemed kinda like it’s hard to tell who’s the General Ed teacher and who was the Special Education teacher

In conjunction with using video to build these teams’ capacity to deliver parallel co-teaching models, both teams reviewed a document, the Vignettes: Parallel Co-Teaching (Villa et al., 2004), which outlined and defined a number of parallel co-teaching variations for the teams to consider. During Module 2, the English Team only had time to silently read and review the vignettes document on parallel co-teaching, but the Math Team engaged in the following conversation while reviewing the document:

**Math Team**

*Teacher C:* On Monday, the students are practicing using the quadratic formula...So there might be some way to rotate the students in stations...If we’re talking about the benefits of four methods you get the benefit of choosing this one over another method...Using different methods, completing the square, factoring, and graphing in certain situations.

*Teacher D*: I love that. Yeah. And those are the three I want to try.

**Planning Practice Part I**

Next, the teams transitioned into the lesson planning activity, the final Module 2 activity. To initiate the lesson planning activity, I introduced the IMPACT Planning Protocol (see Appendix E) to both teams. The introduction involved providing copies of the planning protocol to the participants as well as directions on how to use the protocol. Additionally, I provided a copy of a multiday lesson plan, as an exemplar model, representing a by product of a co-teacher
team using this tool. The structure of the planning protocol represented an outline of actions for co-teacher teams to exercise when designing their co-taught lessons.

The core team actions prescribed within the planning protocol represented the following: (a) reflect on teacher and student performance, 20% of the time, (b) determine learning objectives for the lesson and consider varying co-teaching approaches to apply 60% of the time, and, (c) assign responsibilities for the designed lessons, 20% of the time. I highlighted with each team how within the model lesson plan the co-teachers outlined the variations of co-teaching approaches and co-teacher responsibilities associated from start to finish for each lesson. Additionally, I also encouraged the teams to refer to the differentiation tips and vignettes on parallel co-teaching documents they received and to reflect on what they had learned about the supportive, complementary, and parallel co-teaching approaches. After both teams had agreed to use the planning protocol, they started by following the prescribed steps of the tool:

**English Team**

**Teacher A:** ...We can talk about next week and use this as our template...and see where our planning becomes more structured.

**Teacher B:** Yeah.

**Math Team**

**Teacher C:** I guess we have some structure...

**Teacher D:** Yeah...I mean, I don’t think–like we talk about the content, what the student needs were and then, okay, Let’s use the template to lesson plan...it’s been very easy just to kind of like fall back on knowing how the other person would do things.

After both team agreed to use the planning protocol, they started by following the prescribed steps of the tool:

**English Team**

**Teacher B:** Yeah. What worked well? Lots of share outs. I think the share outs.

**Teacher A:** The share out was the highlight of the week. And okay, there were two highlights. One was the share outs and two was specifically Student R’s comment.

**Teacher B:** I know. I’m getting misty even thinking about it...But the poetry is often concerning. They have a hard time with it

**Teacher A:** Well, my other classes were not as effective as our class...It wasn’t as deep...I am gonna modify what we did in class for my other classes.

After discussion on what was going well and concerns, the English Team shifted the discussion:

**Teacher A:** Big picture is that the essay is due at the end of next week. We have three class meetings before the essay is due: Monday, Wednesday and Thursday

**Teacher B:** How we’ll deliver–you know, well, let’s just look at it. So Monday, they will have hopefully they have read their essay. But should we give them a couple of minutes at the beginning to read that essay?
This pattern of the English Team using prompts on the provided planning protocol continued until the end of the module. By the end of this planning session, this team began to scope out activities to support students finishing their essay and the timeline for the students to finish *The House of Mango Street* and *A Lesson Before Dying* by the end of the Spring Semester. The team did not discuss co-teaching variations during this lesson planning time.

Similarly, the Math Team also used the planning protocol to plan their week’s upcoming lesson on factoring quadratics. However, the Math Team went deeper into the protocol compared to the English Team by engaging in specific conversations about using a co-teaching variation:

*Teacher C:* ...To deliver our factoring quadratic lesson there might be some way to rotate the students in groups by stations in some way. For the students to talk to us about the benefits of the four methods of factoring quadratics...I’m thinking...let’s have four stations....

*Teacher D:* Yeah...we can present the four methods at the beginning of the lesson...then the students do four stations....

Module 2 ended with both teams using the provided planning protocol and agreeing to meet with me next week for Module 3.

**Module 3—Revisiting Module 2**

Module 3 occurred seven days after Module 2 and lasted approximately 70 minutes for each team. During the module, I revisited the “Vignettes: Parallel Co-teaching” document and Parallel Co-Teaching Video reflection activities with the teams and allotted time for the participants to review the terms and definitions of the following parallel co-teaching approaches: split class, station teaching, learning centers, co-teachers rotate, and cooperative group monitoring. During this activity, I also told the participants to think about how they could apply the concepts of parallel co-teaching into their upcoming lessons to maximize student learning and achievement. I completed this portion of the module by letting the participants I was going to reshown the parallel co-teaching videos already presented during Module 2. However, I told the participants that instead of showing the complete video segments of elementary, middle, and high school exemplar models of parallel co-teaching, they instead would view 30-second clips of various parallel themes that I selected for their analysis.

The English Team reviewed the parallel video clips and the Vignettes: Parallel Co-teaching document. The Math Team, however, requested not to watch the videos, preferring to discuss the vignettes on the parallel co-teaching approach, so we did.

After the English Team reviewed and analyzed a snapshot from Villa’s (2004) parallel co-teaching video that focused on the stations co-teaching model, the following discussion occurred:

*Teacher A:* ...next week is perfect for us to use stations

*Teacher B:* We can use the stations approach for looking at their vignettes?
Teacher A: Yes, we could have three or four stations. One group just talks about vignettes. One group just talks about poems and one group just talks about essays. We could do a fourth group, which is the kids just work.

During this portion of the reflection activity, the Math team discussed the vignettes of parallel co-teaching. Teacher D^ raised the topic of splitting groups for each co-teacher:

Teacher D^: Can I ask you something about the parallel theme? I’m curious about this... do you not like the idea of splitting groups? Because, then you don’t know how one half the class is doing?
Teacher C: No. I trust you... let me elaborate... if there’s a weak spot with the students, I know you will discuss that with me, and I would discuss any weak spots with you too. So I don’t feel like I need to know firsthand. I feel like it’s okay for us to split the class.

Complementary Co-Teaching

Following the review of parallel co-teaching materials, I had both teams review the differences between supportive and complementary co-teaching. The goal of this activity was for the teams to recognize that supportive teaching entails any of the following: a) the non-leading co-teacher providing one-on-one support for students, b) engaging in observation of their partner or a pre-designated students. Complementary co-teaching, on the other hand, consists of actions such as paraphrasing or scribing notes to enhance the lesson for all students. From this very short activity, the English Team responded:

Teacher A: Yeah. My special education partner says she scribes better than I do.
Teacher B^: She needs sometimes to scribe for herself and get it out there. Yeah. So she can so then I’ll do a review of the homework or something else.

And, the Team Math Team’s response:

Teacher C: What is the difference between supportive and complementary?
Teacher D^: I feel supportive is more in a sense what our aide does I almost wonder if it’s because he is helping students one-on-on but it’s like he falls into that supportive role.

Planning Practice Part II

Next, from the review of the parallel and complementary co-teaching activities, the teams transitioned into lesson planning activity. During the first 20 percent of the planning time, both teams reflected on teacher and student performance.

The English Team’s conversation during the first 20 percent of the planning time reflected conversations regarding how their previous lesson went and on student concerns:
Teacher B\(^{\wedge}\): The poem discussion was a little quick. My real concern is that I think students like students C and R are too concrete with their essays, as they really only talked about one event...And I bet they’re not the only one.
Teacher A: Right.
Teacher B\(^{\wedge}\): ...I wondered if we can maybe have stations.

The Math Team’s exchange during this phase of the planning session carried the following dialogue:

Teacher D\(^{\wedge}\): Okay. Reflect on the teacher and student performance.
Teacher C: Yes. I kinda feel like I don’t know if you need to do this. I kinda feel like I want to write down some names because I kinda feel like it will help me think better if I write down names. Would that help you think better or not really?
Teacher D\(^{\wedge}\): No. You mean like do you want to kinda go through the kids that we were talking about specifically yesterday?
Teacher C: Yeah

Next, the Math Team, after writing down a number of students’ names, began to discuss in detail the how their student were progressing.

Both teams transitioned at the 20 percent mark into co-planning the lesson by discussion on topics such as the big picture challenges, the delivery of content and consideration of co-teaching variations.

Teacher A: All right. So our big picture is that the students are finishing the book, text, and writing samples...we also plan this week to have the discussion with them about why an author chooses a poem, vignette, or essay to convey their message?
Teacher B\(^{\wedge}\): Yeah. With the Venn diagram.
Teacher A: We’ll figure out the day to put this in.
Teacher B\(^{\wedge}\): So the big picture—for the delivery of content we’re thinking of having student group time...what would I call it—parallel stations?

Then, later during this dialogue:

Teacher A: Okay. So then...there’s lots of different ways to think about this. One of us could do vignettes and so we break the class into three groups of eight. One of us is just revising. I could be the revising person....
Teacher B\(^{\wedge}\): Okay.
Teacher A: One of us could do vignettes with eight kids. How’s your vignette?...the other eight, they’re sitting by themselves working...before they see a teacher. And they cycle through all three stations...What do you think of that?

Moreover, the Math Team’s conversation during the lesson design phase of their planning session consisted of the following:
Teacher D\(^\wedge\): To review the homework on solving quadratic equations, let’s have the kids move through three stations.

Teacher C: We can figure out how to group them up...so we have a discussion with that group about looking at three problems using completing square. Why is this one easier than this one? Which one would you want to use the completing the square method—which one did you like the best? Which problem was smoothest for you and why?

Teacher D\(^\wedge\): And what I was thinking is so like say at one station I’m doing completing the square to solve the quadratic equation, at your station you’re doing the graphing method to solve the problems and the paraeducator is using the factoring method.

By the end of Module 3, both of these teams developed a multiday lesson plan that integrated the parallel co-teaching strategies. Both of these team developed three or more days of lesson plans that incorporated the parallel co-teaching approach of stations, where each partner was solely responsible to lead a learning goal at a particular station.

Analysis of Critical Learning Incidents

My analysis of the influence of Modules 2 and 3 on the co-teacher teams shows that the modules generate critical learning incidents under four major themes. These themes represent a deeper understanding of supportive teaching, the importance of establishing roles and responsibilities, how structure during meetings relates to efficiency, and teacher experimentation with newly introduced practices. My interpretation of what critical learning incidents occurred throughout Modules 2 and 3 suggest learning in varying degrees of these modules’ learning goals (See Table 4.16). Next, I highlight the critical learning incidents that appear to show how a module 2 or 3 activity or combination of module 2 and 3 activities show high levels of learning of these modules’ learning goals by the four themes discussed above.

Unpacking Supportive Teaching

The Module 2 reflection activity, where each of the team members were provided time to unpack what occurred after experiencing Module 1, resulted in affirmation or co-construction of post-baseline learning for the teams and investigator. After experiencing Module 1, both teams reported that during the previous week, the special education teacher represented the lead teacher within the supportive co-teacher module, whereas the general education teacher played the supportive role. This change in both of these teams’ practice is noteworthy as prior to the intervention, the norm represented the general education teachers playing the lead role within the supportive teaching framework for the majority of the time. Additionally, the effect of appeared to generate a deepening of knowledge of supportive co-teaching for each of the teams.

While these teams reflected on the supportive co-teaching experience during Module 2, Teacher A seemed very pleased with how her special teacher partner and team performed with Teacher B\(^\wedge\) leading their supportive modeled lesson:

Teacher A: What about the music portion of our supportive lesson? The music one we hit so well and the share out you, Teacher B\(^\wedge\), hit so well. So we had the students working individually on--the students got into their groups writing on the board. You also
presented the elements to look at and then afterwards you, Teacher B^, had them do that activity with the sharing of the mind.

From the Module 2 reflection, the English Team seemed to actualize the true versatility of the supportive co-teaching approach with each co-teacher as a viable lead teacher with this framework. Teacher B^ commented with exhilaration on the newness of playing the supportive lead teacher:

**Teacher B^**: Yes, last week, we did the supportive co-teaching model...normally my partner, Teacher A usually conducts and I’m the supportive. But, I really led the lesson, and she played the supportive role

In alignment with the English Team, the Math Team’s co-constructed conversation during the Module 2 reflection period appears to show a greater understanding of how to use the supportive approach. To recap, during the reflection period, Teacher C stated:

**Teacher C**: When we used supportive co-teaching last week, I was thinking differently because I realized when you’re leading the class, I am only listening to you...What should I be doing to support you?

After this comment from Teacher C, what ensured consisted on the Math team coming to the realization that when Teacher D^, the special education teacher, plays the lead role with the supportive framework, she needs to be more strategic with her actions and engage in activities such as scribing notes, clarifying concepts, supporting individuals students, or re-emphasizing key concepts for the entire class.

**Affirmation, Benefits, and Coordination (ABCs) of Co-Teaching**

As both teams progressed through the Module 2 activities that examined the questions of “why to co-teach” and “what are the benefits of co-teaching”, all participants affirmed that the co-teaching framework was beneficial. For example, within the scope of these activities, Teacher A discussed the benefits of getting feedback from a co-teaching partner and Teacher D^ commented on how two sets of eyes in the classroom is better than one in order to foster student learning and achievement. Yet, despite the teams discussing the classroom benefits of the co-teaching framework, these teams did not discuss how the framework improves lesson planning. Hence, the teams do not seem aware of the lesson planning benefits of a co-teaching model in spite of participating in the intervention’s activities.

However, shortly after these Module 2 activities discussed above, the participants engaged in the Module 2 activity of “Assigning of Roles and Responsibilities” (See Appendix G: Co-Teacher Responsibilities). The types of comments made during this activity from the participants, strongly suggested that despite the intervention occurring with approximately seventy percent of the school year complete, these teams had not formally done the task of assigning roles and responsibilities:
**Teacher A The English Team:** What about who determines study skills and learning strategies? Where are we on this?

**Teacher D^ The Math Team:** I’m surprised at how many roles and responsibilities that you feel we are equal...

By the end of the “Assigning of Roles and Responsibilities” activity, both of these teams appeared to acknowledge the activity’s importance. After this activity, the teams appeared to learn that the assigning of roles and responsibilities for co-teaching was a necessary exercise to optimize the effectiveness for a co-teaching team:

**English Team**

**Teacher B^:** Yeah, us and other teams using this tool to discuss roles and responsibilities is a good idea.

**Teacher A:** This is a good resource.

**Teacher B^:** Yeah, it is.

**Math Team**

**Teacher C:** So I want to share this with...if you want to revisit this activity, if you feel like the team needs to have a conversation, just because I feel like the rudder wants to get adjusted...I want to make sure you have this roles and responsibilities document we just worked on.

**Teacher D^:** No, that’s great for us to revisit this tool...It’s always good to center our responsibilities–I think we should try to have that. That’s a goal like the beginning semester and end of the year just to see.

**Proclivity to Structure and Routines**

To recap, within the Module 1 activity called Sharing Hopes, Attitudes, Responsibilities, and Expectations (S.H.A.R.E.) both teams indicated lesson planning to meet the needs of all students as the biggest obstacle within with their co-teaching practice. Hence, based on these teams’ responses on the S.H.A.R.E activity, I was unsure how these teams would respond during Module 2, when the teams were introduced to and given voluntary time to use the intervention’s planning protocol (see Appendix E).

During Module 2, the primary learning objective for the voluntary planning time reflected the co-teachers learning how to co-plan lessons for their co-taught class that meet the learning needs of students, team concerns, and team capacity, and considers the supportive, complementary, and parallel co-teaching variations.

Prior to Module 2, both teams acknowledged not using a formalized routine or agenda during their planning time. However, once presented with the intervention’s planning protocol during the voluntary portion of Module 2 both teams seemed open and welcomed the idea of enhancing the structure of their collaboration time:
English Team

Teacher A: We can talk about our lesson plans for next week and use this as our template.

Teacher B*: I agree...but, again, we need our curriculum materials in front of us a little bit more to really see what that rubric is from the essay.”

Despite not having all of their needed curriculum materials, the English Team still created a lesson that featured stations lead independently by each co-teacher. This method represented a new means for the English Team to design their co-taught lessons.

I suggest that the intervention’s planning protocol, from baseline, improved the English Team’s ability to create co-taught lessons that considered the students’ learning needs and capacity of each co-teacher while considering well known or newly introduced co-teaching practices. Hence, what the English Team learned from Module 2 represented a method to lesson plan in a more structured and joint manner compared to baseline. Below are comments from Teacher B^ of the English Team, during her private interview debrief on Module 2:

Teacher B*: I think what was really good about Module 2–the best thing I liked was how to reflect on last week, planning for this week, and that lesson planning template...We’ve learned about all the different models...I really appreciated the work time...I feel like for me it was getting a little more solidified...To be reminded of the models and the concepts and the–really the goal, and to then be planning with that always in mind.

During Module 2, during the voluntary planning time, the Math Team also exhibited relatively high engagement in the intervention’s planning protocol. During the voluntary planning portion of Module 2, the Math Team not only followed the planning tool with fidelity, similar to the English Team, to the extent of creating a parallel themed co-teaching lesson, discussing the use of a “ticket out” to promote student reflection, and scheduling another planning meeting prior to delivering their parallel themed lesson:

Teacher C: Yeah. Let’s use the ticket out, for the station lesson we’re designing. I want the students to reflect on the different stations on factoring quadratics afterwards or even during process.

Teacher D*: Yeah. I think we’ll do the ticket out at each station...So we have to meet this coming Monday during our sixth period prep to finish designing this lesson

During Module 3’s optional planning time for the participants, both of the teams voluntarily used the intervention’s planning protocol to fine-tune their current lesson plans under development or plan a future lesson for their upcoming classes. Therefore, I suggest that the intervention led to both of these teams learning how to engage more effectively in formalized and structured planning of co-teaching lessons to consider the learning needs of students. I interpreted that the intervention influenced these teams’ ability to lesson plan not only based on their high and consistent engagement with the intervention’s lesson planning tool over a two week period, but also based on participant comments after the completion of Module 3, as follows:
**Teacher A:** ...This intervention for teachers, again, is looking at the different models of co-teaching, but I think it was just so productive using the planning protocol, as this tool helps to inform our instruction for the week.”

**Teacher B**: Well, I think that Module 3 was really to look at...more closely at the parallel teaching model. It gave us time—this is the first time we had brought our materials...So that was really nice. We got a lot of planning done.

**Teacher C:** One learning goal for Module 3 was support around meeting, which I’d never had...I never had somebody say okay, here is how you build an agenda...that’s good. Because we need to do that but we tend to spend too much time doing on one topic, or it’s not.

**Embracing Supportive, Complementary, and Parallel Co-Teaching**

Completion of Modules 2 and 3 showed that the teams were learning how to follow a routine agenda and structure a lesson plan as well as expanding both teams capacity to engage in the supportive, complementary, and parallel co-teaching practices. As discussed earlier, from the Module 2 reflection exercise, both of these teams, atypically, had their special education co-teachers lead a lesson grounded in the supportive co-teacher framework after experiencing Module 1. I surmised that this shift in teacher practice resulted from the participants reviewing and engaging an examination of the different types of supportive co-teaching.

In reference to the complementary framework, the English Team reported knowing the practices of complementary teaching prior to the intervention. Within the intervention, I also note that while using the planning protocol, Teacher B expressed interest in creating a Venn diagram to “complement” the lesson she was co-constructing with her partner.

Unlike the English Team, the Math Team needed some clarity on the complementary teacher framework, specifically from Teacher C, the general education teacher. Hence, from experiencing the Module 2 reflection activity, the Math Team realized that there were targeted actions Teacher C could engage in to support Teacher D as the lead teacher:

**Teacher C:** When we used supportive co-teaching last week, I was thinking differently because I realized when you’re leading the class, I am only listening to you...What should I be doing to support you?

During Module 2, the activity that focused on complementary co-teaching, Teacher C expressed wanting greater clarification on what complementary co-teaching represented. During this portion of Module 2, I directed Teacher C to a definition of complementary co-teaching and provided her some examples. In the case of learning for the teams, the intervention appeared to bring greater awareness of complementary co-teaching to the Math Team as compared to the English Team.

The most growth from baseline in learning for both teams was in using parallel co-teaching. Prior to Modules 2 and 3, both of these teams alluded to a desire to engage in parallel
co-teaching practices but seemed to lack the expertise and shared motivation to implement this particular practice with their classrooms. However, after these teams completed Modules 2 and 3, both developed multiday lessons that included supportive, complementary, and parallel co-teaching instructional strategies. Both teams implemented stations, a method of parallel co-teaching, within their multi-day lessons. I also confirmed through Module 3 field notes that both teams were in the process of learning how design and deliver lessons that integrated supportive, complementary, and parallel co-teaching practices (See Appendix H). The teams also showed partner-task development growth by creating lesson plans that now include the grouping of students strategically were each co-teacher is solely responsible for a group as significant because at baseline, I analyzed that both these team rarely or never engaged in parallel co-teaching prior to the intervention.

**Chunk Three, Module 4: Awareness, Gracious Space, and Planning Practice**

**Learning Objectives**

The learning objectives of Module 4 reflected developing the teams’ awareness of a communication framework known as Gracious Space (Hughes & Grace, 2010) as well as the co-teaching approach of Teaming. Module 4 also included a check-in period at the start of the module to allow the teams to reflect jointly on the status of their planning and instructional practices. The module ended with the teams having voluntary time to lesson plan for the upcoming week.

**Learning Goals and Expectations**

The goals of Module 4 included the following: an understanding that engaging in reflection on their practice will deepen joint learning, increasing the ability to engage in the teaming co-teaching approach and full disclosure of concerns, and growing team capacity to design lessons with more sophisticated co-teaching instructional strategies. See Table 4.17 for the main activities and learning expectations of Module 4.
Table 4.17

Module 4: Main Activities and Learning Expectations

<table>
<thead>
<tr>
<th>Main Activities</th>
<th>Expectations for Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitate reflection on co-teaching planning and instructional practices.</td>
<td>The teams begin to understand that they need to engage in reflection to grow their co-teaching practices and interdependence.</td>
</tr>
<tr>
<td>The teams review, discuss, and reflect on resources designed to grow the participants’ ability to engage in open dialogue, full disclosure of concerns, and productive conflict.</td>
<td>The co-teachers have the skills, confidence, ability and strategies to express their ideas and concerns freely.</td>
</tr>
<tr>
<td>Reflect on literature and video on the various aspects of the co-teaching approach of Teaming.</td>
<td>The co-teachers will build and expand on their understanding of the complexities of co-teaching to address instructional challenges and grow their ability to meet the needs of all students.</td>
</tr>
<tr>
<td>Voluntarily co-construct a multi-day lesson plan via a structured routine for their shared assignment.</td>
<td>The co-teachers will refine their planning process to foster the exchange of ideas in order to create lessons that consider the full range of co-teaching complexities.</td>
</tr>
</tbody>
</table>

What Occurred

The Check-In

After the welcoming, providing of materials related to the module, and reviewing the activity for session for the participants, I facilitated an opportunity for the teams to reflect on their co-teaching experiences since Module 3. The teams’ responses during this reflection focused on how they had successfully used the parallel co-teaching approach within the classroom:

English Team

Teacher B*: Let’s take like the part when we were actually stationing (i.e., student in split groups for each co-teacher).

Teacher A: Stationing was good.

Teacher B*: Let’s take like the part when we were actually stationing.

Teacher A: Stationing was good... And I think if we had to do it again I would make four stations even though we can only be at two because I didn’t get to everyone. So if they can be a little bit smaller than I feel like I could’ve gotten to every kid. And surprisingly, not surprisingly, but the student group that was reading, engaged in the reading.
**Math Team**

**Teacher D**: Yeah, I liked doing rotation.

**Teacher C**: That was good like having a third person was very helpful, too because then the groups were smaller.

**Teacher D**: It was fun because in the moment of doing it, it felt so rushed and so fast, but that discussion afterwards, ooh so good.

**Teacher C**: Yeah, right, right. That means so much to all three of us because we all have different perspectives that they were able to bring out to the table.

---

**Enhancing Communication with Gracious Space**

Next, the teams reviewed a framework to strengthen group communication called Gracious Space (Hughes & Grace, 2010). Gracious Space is defined as “a spirit and setting where we invite the stranger and learn in public” (Hughes & Grace, 2010, p. 14). This framework represents a strategy to foster productive conflict and full disclosure of concerns (Hughes & Grace, 2010). After the teams were led through the activities of reading materials and watching a video on Gracious Space, the teams engaged in the following conversations:

**English Team**

**Teacher A**: Setting wise, for me, in the classroom that we teach in, but it’s you coming in. What do you think if that was not the space that we met for our lesson planning meetings?

**Teacher B**: That could probably be nice. It’s more that I just schlep everything in there every day is what gets, you know. But that might be nice, that would be good because I do have that little back room that is all ours. So I just wouldn’t have to worry about it like every week. That would probably be good.

**Teaching A**: Okay, I will come to you for our meetings.

**Math Team**

**Teacher D**: Me personally, I think that we’ve gone through all this. I think”

**Teacher C**: Gracious Space may not have been in place...I think, last year, we were running towards the ‘roar’—a term used in the Gracious Space framework to denote an expressed concern or problem within a group.

**Teacher C**: Yeah, toward the end of the year. There was a lot of roar, but that was okay. It was good for us.

**Teacher D**: The other part of that is I feel like you trust me to try to give you my best, so when I make a mistake, your assumption is still that I meant well and I wasn't intentionally trying to be rude or mean or undermining, and so you always approach it that way.

**Teacher C**: You say these great things about me to the class, and it feels so good. So you create this space for me to excel, but not by some pressure because you've seen me screw up. You're so patient with it, and yet you still sort of see, you still say these great things about me so they have this expectation that you did it in a good way.
Co-teaching Approach of Teaming

During the Teaming activity portion of Module 4, the participants viewed a brief co-teaching team video and read literature on the strengths and areas of concern for the Teaming approach. In regards to Teaming, the following comments were made:

**English Team**
**Teacher B**: I think it’s cautionary for us for the team teaching, at least I feel. Not monitoring the students, like oh God, am I watching those guys enough? And then also there’s the too much teacher talk.

**Math Team**
**Teacher D**: last year we were trying to team teach...it wasn't horrible...we were trying to reach, you could say, the most difficult level first instead of recognizing that we had some different ways we could get that.”

**Teacher C**: Yeah, thinking about that, if we do decide to do team teaching, I'm not sure exactly what that looks like. I guess we'll find out, but it sounds like if we wanna watch out we have a lot of kids have been involved in the practice setting.

Lesson Planning Practice, Again

The last portion of Module 4 consisted of providing planning time with coaching for the teams. During the Module 4 voluntary planning session, both teams utilized and followed all aspects of the intervention’s planning protocol to scope two to three days of lesson plans integrating supportive, complementary, and parallel co-teaching instructional strategies. Despite exposure to the Teaming approach during this session, neither team integrated the approach within their upcoming lessons.

Analysis of Critical Learning Incidents

Check-In & Reflection

The Module 4 check-in period reflected the participants commenting on the positive impact of using a parallel themed co-teaching lesson:

**English Team**
**Teacher A**: Stationing was good... And I think if we had to do it again I would make four stations even though we can only be at two because I didn’t get to everyone.

**Math Team**
**Teacher C**: That was good like having a third person was very helpful, too because then the groups were smaller.

**Teacher D**: It was fun because in the moment of doing it, it felt so rushed and so fast, but that discussion afterwards, ooh so good.

The Module 4 reflection, for both teams, seemed to show that both teams employed the parallel co-teaching approach with satisfaction and takeaways of how to maintain the
effectiveness of this co-teaching approach. The reflection also appears to show that these team planned lessons jointly, a partner processing trait, and increased their use of more complex co-teaching practices, a partner task development trait.

**Gracious Space**

Within the Gracious Space activity, the English team discussed a conflict regarding where to meet for planning purposes. While resolving this concern of where to meet, the English team referenced the Gracious Space concept of “the setting” as a way to introduce this concern.

The Math team referenced the Gracious Space concept of the “roar,” a tenuous or hard conversation that a group may either avoid or confront. During the activity, the Math team inferred that because they dealt with the roar last year, they are now engaging in the Gracious Space framework despite not having previously known that it existed. The Gracious Space activity seemed to help the English team discuss a hidden concern productively and provided validation for the Math team that what they went through last year reflects a normal part of growth within the interpersonal dynamics dimension.

**Teaming**

During the developing awareness phase, the participants did not appear confident on how to best utilize the teaming approach. For example, Teacher B^ expressed how in her opinion this approach lacks “the monitoring of students” and perhaps has “too much teacher talk.” Additionally, Teacher C shared that even after watching the video and reviewing the written materials on teaming, she did not know what teaming should look like in the classroom. Hence, though the teaming activity exposed the participants to the teaming approach, it did not generate the confidence for the teams to apply it. Accordingly, the approach did not create growth for them within partner-task development dimension.

**Planning Practice & The Planning Tool**

Similar to Modules 2 and 3, both teams demonstrated high engagement and fidelity in use of the intervention’s planning tool. Both teams used the planning tool to discuss what was and was not working in the classroom. The teams also used this tool to plan their upcoming lessons while considering the full range of the complexities of co-teaching, except for the teaming approach. To this point, during the Module 4 debrief, the following statements where made by the participants independently:

*English Team*

**Teacher A:** The planning tools we have been using even when you’re not there is great...In that I can’t remember when we met. We met before last week classes and we just went straight to the planning template...And Teacher B^, was able to create a graphic organizer for the kids, which I think was really helpful for the class discussion yesterday.
**Teacher B**: It helped tremendously to have the lesson planned. We had really good classes. They did great, they practiced their class discussion, and then they did a class discussion yesterday. It was good. Yeah.

**Math Team**

**Teacher C**: Class went well...because of the planning tool, I think we’re really communicating more about specific students, and who’s covering whom, so...nobody’s left in the dust and not getting help.

Additionally, while observing the teams using the planning tool during Module 4, I witnessed demonstrated growth in their ability to communicate, based on goals expressed from the participants during the pre interview or previous modules. For example, during Module 1, Teacher C made the following statement:

**Math Team**

**Teacher C**: I probably should try to paraphrase back to you what I think I heard so that you know whether or not I got it.

Then during Module 4, while engaging in the planning practice activity, Teacher D was trying to explain how she wanted to design the lesson, but Teacher C stopped her to paraphrase:

**Teacher D**: So just in my opinion, it just feels better to have two parts like whether that means most of the class can have two parts...Thursday, you know what I mean? Here's Part 1. Great, take a five-minute break. Here's Part 2, go. Because when we do it like that, then we’re also still giving a Part 1 and chunking the work for the students. I hear that it's a lot, but I feel the first part of this class is going to be the exponents and what you guys did in the third quarter. Then the second part of the final's gonna be what we did in the fourth quarter. Is that doable?

**Teacher C**: So wait; let me make sure I'm understanding what you're saying.... So you're saying it's two parts...Teacher C continues to paraphrase back to Teacher D

**Teacher D**: Yeah, this is what I'm trying to say

After Teacher C clarified her concern by paraphrasing, the Math Team continued to lesson plan using the prompts within intervention’s planning tool:

**Teacher C**: So big picture first is what are we thinking about for finals? Two primary multiple-choice small sections like where are you going with that?

**Teacher D**: Okay. So should we do the first part, and should we review this quarter first? So go over Monday homework and exponential functions. Reviewing exponential functions and homework. Okay, so this is sorta like big picture then, right?

For the English team, during Module 4’s planning time, the concerns expressed in the pre interview by Teacher B regarding the need to use more visuals to increase student access was disclosed and addressed:
English Team

Teacher A: ...for *A Lesson Before Dying* students will analyze different characters and provide their name and characteristics, role in the novel, or we could use proximity to Grant and proximity to Jefferson.

Teacher B^: You wanna give them a visual?

Following the above exchange, Teacher B^ explained that the use of a visual for “the proximity to Grant and proximity to Jefferson” activity would make the lesson more accessible. Ultimately, the English team did incorporate a visual for the lesson, in part due to concerns shared with me privately by Teacher B^ that the course was “being too verbal.” The English Team’s Lesson Planning Field Notes (See Appendix H) shows how Teacher B^ will make “the choice of conflict, literary element, theme sheets,” a visual scaffolding tool, for *A Lesson Before Dying* classroom activity.

**Module 4 Takeaways**

On the whole, Module 4 achieved its learning objectives (see table 4.17). The teams seemed to show the most growth using a routine via the intervention’s planning tool to develop multiday lessons productively, a partner processing characteristic. Throughout the module, the teams also openly disclosed concerns with productive conflict, an interpersonal dynamic trait. However, with regards to implementing the teaming approach, both teams discussed its merits and challenges but did not plan to use it.

Moreover, during Module 4’s practice planning activity, the English team addressed a hidden concern of the instruction being too verbal by agreeing to create a visual to scaffold for the lesson. Additionally, Math team achieved a communication goal (i.e., use paraphrasing) as well as meeting their goal to discuss students more while lesson planning. Within the lesson plans developed for Module 4, both teams integrated the supportive, complementary, and parallel co-approaches into their lesson plans, but not the teaming approach. Therefore, from baseline, both teams appeared to show growth within the dimensions of partner processing and partner-task development.

The English Team also seemed to show some growth, from baseline, in interpersonal dynamics as some open disclosure regarding where to meet and the need for a visual did occur. Yet, within the dimension of partner task development, neither team implementing the teaming approach, therefore it appears that the teams are plateauing with this dimension.

**Chunk Four, Modules 5-6: Planning & Reflection**

**Learning Objectives**

The primary learning objective of Module 5 represented a deepening of the teams’ ability to design lessons that considered multiple co-teaching models and focused on student learning. Through a self-assessment process, the learning outcomes of Module 6 mirrored the teams’ understandings of their areas of strength and needed growth in order to develop an action plan. Learning Goals and Expectations
The goals and expectations of Module 5 included that the teams would demonstrate increased knowledge on how to engage in productive planning actions to develop learner-centered lessons that consider the complexities of co-teaching (see Appendix A.). Module 6 goals and expectations for the teams included identifying their areas of strength and needed growth and developing an initial action plan for improvement as well as articulating new knowledge on how to generate effective co-teaching through a conversational presentation. See Table 4.18 for the main activities and learning expectations for Modules 5 and 6.

Table 4.18

**Modules 5 & 6: Main Activities and Learning Expectations**

<table>
<thead>
<tr>
<th><strong>Main Activities</strong></th>
<th><strong>Expectations for Learning</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflect on the co-teaching planning and instructional practices since the previous module <em>(Modules 5 &amp; 6).</em></td>
<td>The teams understand that they need to engage in reflection to grow their co-teaching practices and interdependence.</td>
</tr>
<tr>
<td>Voluntarily co-construct a multi-day lesson plan via a structured routine for their shared assignment <em>(Module 5).</em></td>
<td>The co-teachers will refine their planning process to foster the exchange of ideas and expertise to create lessons that consider the full range of co-teaching complexities.</td>
</tr>
<tr>
<td>Team reflection on planning, instructional environment, physical environment, student discipline, school environment, and instructional delivery using a self-assessment instrument developed from the Maryland Department of Education <em>(2014b)</em> <em>(Module 6).</em></td>
<td>The teams identify areas of strength and needed areas of growth and the contributing factors under their control or influence.</td>
</tr>
<tr>
<td>Work jointly to determine team goals and develop an action plan to achieve these goals using the instrument developed from the Maryland Department of Education <em>(2014b)</em> <em>(Module 6).</em></td>
<td>The co-teacher pair determines shared goals and co-constructs an action plan to maintain their identified areas of strength and address areas of needed growth.</td>
</tr>
<tr>
<td>The teams engage in a conversational presentation on the key factors needed to foster an effective co-teaching partnership <em>(Module 6).</em></td>
<td>As a result of the conversational presentation, the teams express knowledge gained from participation in the intervention and deepen their newly acquired learning.</td>
</tr>
</tbody>
</table>
What Occurred

Module 5—The Check-In

The following reflective conversations resulted from the module’s check-in activity:

The English Team
Teacher B*: The planning tool has been my favorite part of this intervention. Teacher A: Yeah...Oh, it’s a system...the planning tool represents a system that is in place for us.

The Math Team
Teacher C: Our last lesson that featured the station approach was all good...Teacher D^ also told me to keep an eye on Student 1 because of his low test score...so it was good...And I did keep an eye on him...it went fine.
Teacher D*: ...this student has some very specific needs...
Teacher C: Overall the station lesson went well...I found out what Student 1 knew and what he didn’t know...much faster than we would find out with him just taking a test.

While the English team highlighted the benefits of the intervention’s planning tool, the Math team instead discussed how they were able to address the needs of a student much faster compared to pre intervention with the parallel co-teaching approach. Additionally, the Math team discussed how they could use an intentional time to express a team concern, a concept discussed during the Module 4 Gracious Space activity:

The Math Team
Teacher D*: Seriously, right, like just to make sure that we have a time to make sure that if for some reason we didn’t feel comfortable in that time, to bring it up that maybe we have an intentional time.
Teacher C: I agree.

Lesson Planning Time

Next on Module 5’s agenda was the voluntary lesson planning period. During the provided planning time, the English team explained that they did not need the module’s voluntary planning time as their final lesson plans for the year were already created, reportedly by using the planning tool.

The Math team, however, did use the provided planning time, and utilizing all aspects of the intervention’s planning tool with my support for approximately 30 minutes:

Math Team
Teacher C: So – okay, let’s use the planning tool. All right. So debrief, so what went well, like so you had some one-on-one time with Student 4 which he really needed.

Then, after the Math team discussed all of their students, they planned a lesson that included the co-teaching complexities of supportive, complementary, and parallel approaches.
The supportive lesson involved starting the class with three problems on the board, led by Teacher C with Teacher D providing support. Then for the majority of instructional time, the Math team designed a parallel themed lesson with each co-teacher solely responsible for particular students, as discussed below:

Math Team

Teacher D: the entire class will have individual work with the paraeducator monitoring all students. Every so 30 minutes working on a packet for a class, and what we’ll do is work—basically they get to work on their homework, but we’ll go to these kids. So I will go to Student 1.

Teacher C: I’ll go to Student 3, okay?

Teacher D: Yeah. Keep going back—yeah, how about I spend time with Student 7, and then you Student 4 and Student 3?...we’ll let our paraeducator circle the room...

Teacher C: I think maybe keep an eye on Student 2 and Student 5...If there’s anybody that we can help out. Student 6? Oh, who’s got Student 6?

Teacher D: You can throw Student 6 at me.

In addition to creating a lesson that included co-teaching planning and instructional practices not used pre intervention, the Math team also engaged in open disclosure of concerns:

Teacher D: Well, this is what I’m feeling uncomfortable about this lesson...we’re reviewing problems with the students, but we’re not giving them the big picture of the major concepts.

Teacher C: Okay.

Teacher D: And so I don’t see that they’re going to see the relationship—like sure, they’re going through practice, but if I were a parent or an LC teacher, I would be like...

Teacher C: What’s the big picture?

Teacher D: what’s everything on the test?

Module 5 ended with the Math team designing lessons to prepare their students for their final exam. I then provided the teams with a preview of the self-assessment and presentation activities for Module 6. On the self-assessment, the co-teaching teams could rate themselves as initiating, developing, or sustaining (see Table 4.18). The self-assessment ended with the teams developing a preliminary action plan for improvement. I concluded Module 5 by explaining to both teams that Module 6 would end with both teams leading a conversational presentation on four themes (see Table 4.18).

Module 6—The Check-In

Module 6, the final session for the teams, occurred about a week after Module 5. For the English team, the Module 6 check-in began with statements on the appreciation for the intervention’s planning tool and a comment on teacher reflection:

English Team

Teacher B: The planning tool you gave us I think that’s been probably the best thing. And then we’ve got that big lesson plan time and then—
Teacher A: Right. Who’s gonna do what?
Teacher B*: And then who’s gonna do what? I think teachers don’t reflect—I’m sorry, but secondary teachers do not reflect enough about what happened yesterday. Did they get that? You know? I just –
Teacher A: I agree.

Teacher A explained further that she would try out the lesson before their shared class and how this method had led to an open disclosure of concerns:

English Team
Teacher A: Hm-mm. The one thing that was nice for me was we planned on Friday and I taught the lesson to my non co-taught class first. And so then there are days when I come into class and say, “Okay, that didn’t work.” Or I needed to add this. Or let’s—what about this? Or I framed it this—and poor Teacher B*, she’s like, “What?” But I was trying not to speak from I just don’t want to do it that way. I was speaking from –
Teacher B*: It didn’t work.
Teacher A: –it didn’t work... And I practiced it.

After this reflection by Teacher A, Teacher B* commented:

English Team
Teacher B*: But I also felt like I could say, “Well, no, I want to try the lesson the way we originally designed it...Or yeah, let’s revise the lesson based on your recommendations. And you’re like okay.”

The English team ended their check-in by reflecting on what changes needed to be made on a district level to enhance the co-teaching experience for staff:

Teacher B*: We need some groundwork or some materials, I mean, if co-teaching is really gonna be happening here...we need some guidelines and practices.
Teacher A: Well, I was surprised to learn—I did not know co-teaching was happening in the district’s middle school.”

Next, during the Module 6 check-in period for the Math team, Teacher C commented on how her team successfully engaged in a parallel themed lesson, a co-teaching instructional practice the team had not engaged in pre intervention:

Math Team
Teacher C: We made a parallel themed lesson plan to cover certain students between the two of us and to make sure that they finished doing test corrections...it was beautiful and we did that...we accomplished those things...at the same time students...were talking about the lesson, or moving forward in that review and work independently but still getting work from us.
After Teacher C’s reflection, Teacher D^ commented on her team’s awareness of student needs:

**Math Team**
**Teacher D^:** I think we're really good at being cognizant of our student needs. I think that's a strong suit and I think I still kind of feel like to me again this is validating. I do feel like it's my job to be more of an access person being like keeping tabs and like hey, we should check on this person or can we go explain and I feel like Teacher C’s job is the pacing of the curriculum.

**The Reflection Tool Activity**

Both teams utilized the co-teaching reflection tool. When self-assessing team planning, these teams engaged in the following conversations:

**English Team**
**Teacher B^:** I see us as developing for planning...I do think that we plan jointly. I think we both ...equally share in the lesson development...and...monitor student progress.
**Teacher A:** Mm-hmm.

**Math Team**
**Teacher C:** I see us as developing for planning.
**Teacher D^:** I agree.

Next, the teams rated their instructional environment. The English team discussed the need to incorporate more technology into their lessons while the Math Team discussed the need to examine student data more. Then, after discussing the instructional environment, the Math team began to discuss problems with their planning space:

**Teacher C:** Our meeting space is on the smaller side but that's what it's about, right, is the space and then we have a common prep...
**Teacher D^:** ...I get stuff 'lost in that room because I don't know where to put anything for myself...they kind of blend into your things and I know you share that room...

The participants continued to use the tool to rate the remaining categories of student discipline and the school environment. Both of these teams concluded that because of the students’ positive behavior and that fact that the school supports them with a common planning period, these categories were not in need of growth.

Next, both teams entered into detailed dialogues about their instructional delivery:

**English Team**
**Teacher B^:** Yeah. Oh, yeah, I think we’re definitely— we’re sustaining for the supportive theme.
**Teacher A:** ...We tried the parallel theme with our research project and poems.
**Teacher B^:** I think the poem vignette, slash, essay, yeah...That worked pretty well.
**Teacher A**: It is and that's where I tried that in my other classes, with just one, with just me and the other two groups were separate. And it was not as effective as having two.

**Math Team**

**Teacher C**: I think we're pretty good on one teach, one assist like I think we're somewhere between developing and sustaining because we do take turns in that and it may not be completely like in terms of content all the time but there are things that Teacher D can do in this group that puts everybody in the states ready to get back to learning that it just then the whole, I take the total assist role and it's nice to just switch back.

**Teacher D**: Stations is where I would say we're initiating.

**Teacher C**: Yeah, we're starting to do stations but it could be cool...We tried spitting the class too.

**Teacher D**: We tried spitting the class, this is initiating. However I think alternative teaching is what we do...I think alternative teaching is what we're doing all the time.

**Teacher C**: Yeah, I think alternative teaching is good.

### Action Plan Development

After completing the intervention’s self-assessment process, the teams began to develop goals for next year. The English Team discussed the need to create more strategic lesson plans, perhaps by using the planning tool more and by having occasional release days to create specific learning goals for each of their students and refine their co-teaching practices. The English team went on to recommend that at least once per semester, the District should mandate release days where all of the co-teaching teams would come to together to hear the district’s vision, share best practices between teams, then allow the teams to meet individually to deepen refine and their practice:

**English Team**

**Teacher B**: I think what we’ve – this was all brought up and then we just haven’t felt like we’ve had support in the sense of, you know, when we say we want a planning time or we want – what is the vision...what is the district’s vision for co-teaching? Where is our support? Obviously, you have it – you’ve gotten it, but I think something in place from you that, yeah, co-teachers are guaranteed a half day two times a year. That half day is a half hour with all co-teachers and then the rest of the time you’re with your partner teacher, something that’s kind of set, so that yeah, we’re busy. But we got to do it.

**Teacher A**: Mm-hmm.

Similarly to the English team, the Math team discussed the need to design lessons more strategically. The Math team also expressed the need for release time during the school year or for time over the summer to develop their mathematical content knowledge, as the district is implementing a new integrated math curriculum beginning next fall. The Math team also discussed the need for the district to provide professional development throughout the school year to all co-teachers, perhaps on release days to foster their team’s development:
Math Team

Teacher D*: To me just, this has been so often. Participation in the intervention has been professional development this year like unexpected like professional development so to speak. It's been very beneficial. I'm very glad so thank you but I almost feel like our next step should be more with our community like schoolwide or districtwide professional development. It would be great if the District sponsored release days, perhaps on special schedule days (i.e., rallies, assembly days, etc.), so we do not miss our classes.

Team Presentations

The last formal activity within Module 6 represented the teams delivering a conversational presentation on the key steps to strengthen co-teaching relationships, essential steps needed to maximize planning time, and the use of effective co-teaching approaches.

Strengthen co-teaching relationships

When presenting on how to strengthen a co-teacher relationship, the teams provided the following:

English Team
Teacher B*: You know, honesty. Just honesty and like, “We’ve got to talk.” That made me crazy. And it didn’t work for— you know, I think not being afraid to do that.”
Teacher A: So much of it’s just personality agreement in the teams.

Math Team
Teacher C: I would say is that you need to go to some kind of norms like what, how do you build a successful teacher team, you give them time to like go through those questions and check list like while you’re doing this, I do this, you know, how do you see your roles, how do you see your roles so that they have time to go through that and then you know, some kind of checklist and things like that so they can go oh, this is how I think differently than you, this is what it means to be great. Well, how do we go from here to get closer to these steps?
Teacher D*: Right and I think we accept everything differently I would think because we have enough, core values are the same like our brains are thinking differently that we wanna help each other and then the pace could be honest even thought it might be like oh, no, you know, just overstepping but it pays off because we both want to listen to get better.

Maximizing Planning Time, Use of Co-teaching Approaches & Effective Lessons

To maximize both time and the use of co-teaching approaches, both teams focused on the importance of having structured routines during planning time as well as the need for tools to allow them to create effective lessons:
English Team

Teacher A: Well, if you’re a new team, you got to do two things. You got to either jump in and try it and let it fail or sail. Or you say before I try that I want to go see someone else do it. That’s it. And you have those co-teaching videos to show. That’s one way so that it’s not just on paper that you’re reading it. But you can actually see it. I think that—

Teacher B: Yeah. I think to see those co-teaching videos

Math Team

Teacher D: Yeah so again if you want effective lessons give your co-teachers the kinds of tools we experienced in this intervention, do not just throw them together to co-teach with no support.

Words of Wisdom

When sharing on the words of wisdom prompt, both teams focused on the need for the partners to communicate in order to build a common understanding:

English Team

Teacher B: No matter what, each person has to have a role...work on making those roles more or less, but definitely because those kids need to see you and you will need to feel part of a team,

Math Team

Teacher C: Yeah, talk to each other, communicate, be honest, get as much out there as possible, yeah.

Module 6 ended with the teams celebrating that the school year was ending soon and stating that participating in the intervention was overall a positive experience.

Analysis of Critical Learning Incidents

Module 5—The Check-In

During the Module 5 check-in, the English team referenced the benefits of the planning tool as a “system” and the Math team discussed how from the planning tool they were able to create a parallel lesson that also served as a formative assessment for one of their struggling learners:

English Team

Teacher A: The planning tool represents a system that is in place for us.

Math Team

Teacher C: Overall the station lesson went well...I found out what Student 1 knew and what he didn’t know...much faster than we would find out with him just taking a test.
As a result of utilizing the intervention’s planning tool throughout the modules, the English team appeared to have adopted a new routine for lesson planning. The new behavior by the English team also aligns with the partner processing growth witnessed in the impact data. Additionally, the Math team now consistently uses the intervention’s planning tool to create lessons grounded in the station approach. As an instructional and formative assessment strategy, the team seems to have grown in their partner processing and partner-task development as a result of the intervention.

During the check-in period, the Math team also referred to the need “to make sure that we have a time to make sure that if for some reason we didn’t feel comfortable in that time, to bring it up that maybe we have an intentional time.” This statement also corresponds to the Gracious Space learning outcomes from Module 4. Therefore, the Gracious Space activity appears to promote open disclosure and productive conflict strategies for the teams, a core attribute of the interpersonal dynamics dimension. The English team did not make a similar Gracious Space reference during the check-in. Therefore, the team interpersonal dynamics learning and growth from the Gracious Space activity seems to have had a positive, but minimal effect, as the Math team already possessed strong interpersonal dynamics at baseline.

**Lesson Planning Time**

The lesson planning time only applied to the Math Team for Module 5. The English team reported designing their lesson already using the intervention’s planning tool. The English team’s claim is realistic as Module 5 occurred three weeks after Module 4 and about a week before final exams. The English team’s behavior of learning how to use a routine to co-develop lesson plans appears to align with their ongoing use of the intervention’s planning tool and partner processing impact growth.

The Math team also witnessed impact growth in the partner processing dimension from baseline, but unlike the English Team, the Math team used the provided planning time during Module 5 to design their upcoming lessons with the intervention’s planning tool:

**Math Team**

*Teacher C:* So – okay, let’s use the planning tool. All right. So debrief, so what went well, like so you had some one-on-one time with Student 4, which he really needed.

While using the planning tool, the Math team did not only follow the tool with fidelity, but also focused much of their discussion on how to design the lesson to meet the individual needs of students and openly discuss when they had concerns about the lesson’s design.

**Math Team**

*Teacher D^:* – the entire class will have individual work with the paraeducator monitoring all students...but we’ll go to these kids. So I will go to Student 1.

*Teacher C:* I’ll go to Student 3, okay?

*Teacher D^:* Yeah. Keep going back – yeah, how about I spend time with Student 7, and then you Student 4 and Student 3.
**Teacher C:** I think maybe keep an eye on Student 2 and Student 5...If there’s anybody that we can help out. Student 6, Oh, who’s got Student 6?

And later,

**Teacher D**: Well, this is what I’m feeling uncomfortable about this lesson...we’re reviewing problems with the students, but we’re not giving them the big picture of the major concepts.

Therefore, actions from the Math team seem to indicate that the intervention fosters teams to design lessons to meet the needs of students, a partner-task development skill, and to discuss openly and positively their concerns, a skill within interpersonal dynamics.

**Module 6—The Check-In**

Similar to the Module 5 check-in, both teams discussed the benefits of the intervention’s planning tool:

**English Team**
**Teacher B**: The planning tool you gave us I think that’s been probably the best thing. And then we’ve got that big lesson plan time...
**Teacher A**: Right. Who’s gonna do what?

**Math Team**
**Teacher C**: We made a parallel themed lesson plan to cover certain students between the two of us and to make sure that they finished doing test corrections...it was
**Teacher D**: I think we're really good at being cognizant of our student needs.

Hence, intervention seems to foster partner processing growth within the planning process for both teams.

However, during this check-in, the English team also showed some growth in their ability to discuss some concerns openly, as Teacher B discussed how secondary teachers are not reflective enough:

**English Team**
**Teacher B**: ...I think teachers don’t reflect–I’m sorry, but secondary teachers do not reflect enough about what happened yesterday. Did they get that? You know? I just–
**Teacher A**: I agree.

The English team also shared how they negotiate potential changes to their already co-constructed lessons:

**Teacher A**: Sometimes I tried our jointly created lesson in my other classes and–it didn’t work... And I practiced it and we need to change it
**Teacher B^:** But I also felt like I could say, “Well, no, I want to try the lesson the way we originally designed it... Or yeah, let’s revise the lesson based on your recommendations. And you’re like okay.

The English team seemed to have increased their ability to engage in open disclosure, as at baseline Teacher A commented how “I would say she is more open with me then I am with her.” However, I am unable to show how this shift is directly related to the intervention.

**The Reflection Tool Activity**

While engaging the self-assessment exercise, both teams discussed their instructional environment and instructional delivery while for the planning category, both teams rated themselves as developing, the second highest rating:

**English Team**
*Teacher B^:* I see us as developing for planning.

**Math Team**
*Teacher C:* I see us as developing for planning

Again, a recurring theme from the process data seems to suggest these teams have grown in their ability to plan from baseline. As both of these team reported during the Module 1 S.H.A.R.E. activity, their biggest challenges were around how to plan:

**English Team (From Module 1)**
*Teacher B^:* My biggest obstacle with co-teaching... it’s kinda planning prepping – yeah, prepping in confidence in really what is the good tool.
*Teacher A:* I feel the biggest challenge is you know... is planning so there is rigor – there’s no difference in the rigor in that class than there is in any other English class.

**Math Team (From Module 1)**
*Teacher C:* My hope I have is to reach everyone... It’s very challenging... I don’t know how to plan for this... I’ve got to depend on you.
*Teacher D^:* No. It’s – that’s super difficult. But, what I love about this year is that we have the after class to talk.
*Teacher C:* ... I’m wondering if we can continue to talk more during our sixth period planning time.

Over the course of the modules, the frequency with which these teams referenced the intervention’s planning tool and proclivity to engage in the intervention’s planning process appears to correspond to the high partner processing growth by both of these teams in the impact data.

However, regarding instructional delivery, both of the teams noted their supportive approaches as high functioning and parallel themed approaches as tried, initiating, or good. All the co-teachers acknowledged that they did not attempt the teaming approach in a planned or
Inclusive-Minded Planning for Adept Co-Teaching (IMPACT) 93

strategic manner. Hence, the overall, takeaway from these teams’ self-assessment on their instructional delivery represent some gains such as deepening their supportive techniques and experimenting with parallel co-teaching but no substantial overall gains in their complexities of co-teaching. The above pattern of improvement within the supportive and parallel models, but not within the teaming model aligns with both of these teams showing medium impact growth for partner-task development.

**Action Plan Development**

During the Action Plan Development portion of the intervention, both teams discussed how the growth goals for their teams would represent improving their ability to create more strategic lessons that allow greater access to the curriculum for their students. The teams also felt that they would benefit from targeted co-teaching professional development provided by the district. However, the district does not provide this type of support, even in the form of a “district vision” or “release days” for the districts co-teachers:

**English Team**

Teacher B*: what is the vision...what is the district’s vision for co-teaching? Where is our support? Obviously, you have it – you’ve gotten it, but I think something in place from you that, yeah, co-teachers are guaranteed a half day two times a year. That half day is a half hour with all co-teachers and then the rest of the time you’re with your partner teacher, something that’s kind of set, so that yeah, we’re busy. But we got to do it.

Teacher A: Mm-hmm.

**Math Team**

Teacher D*: To me just, this has been so awesome. Participation in the intervention has been professional development this year like unexpected like professional development so to speak. It's been very beneficial. I'm very glad so thank you but I almost feel like our next step should be more with our community like schoolwide or districtwide professional development.

**Team Presentations**

**Strengthen co-teaching relationships**

When the teams presented on how to strengthen co-teacher relationships, they tended to focus on how teams need to determine roles, norms, and team expectation for their partnerships. The recommendations from these teams appear to mirror the intervention’s team building activities of Norms, Core Values, S.H.A.R.E (See Appendix F), and Co-Teacher Responsibilities (See Appendix G). The activities I suggest promote the strengthening of the co-teaching relationship and growth within the dimension of interpersonal dynamics and partner processing. The intervention has appeared to influence the participants thinking on how to best generate team building within the co-teaching relationship.
Maximizing Planning Time, Use of Co-teaching Approaches & Effective Lessons

When the teams led the conversation of how to maximize planning and instruction, they both suggested use of a routine and planning template, similar to the intervention’s planning tool and use exemplary models of co-teaching instruction (i.e., videos on co-teaching or peer observation). Both of these aforementioned techniques were used in the intervention as a strategy to grow these teams’ partner processing and partner-task development. Again, in the case of maximizing planning, instruction, and co-teaching pedagogy, the intervention’s planning tool and method of using video of exemplary models of co-teaching with reflection seems to have influenced the participants’ perspective on how to grow in these areas.

Words of Wisdom

The teams ended Module 6 by conveying the importance of having clear roles and engaging in open and honest communication. These statements represented clear desired learning outcomes of the intervention yet these final “words of wisdom” appear too generic to make a clear connection to the intervention.

Modules 5 & 6 Summary

The goals and expectations for modules 5 and 6 were mostly achieved (see Table 4.18). By modules 5 and 6 both of the teams appeared well developed in their ability to co-plan lessons effectively and productively. However, the teams seemed to only show partner-task development growth in the ability to create supportive and parallel themed lesson to meet their students’ learning needs, and not the other complexities of co-teaching. Within modules 5 and 6 these teams also showed the ability to determine their areas of strength and needed areas of growth productively and discuss a possible action plan for next year. Additionally, both of these teams demonstrated positive interpersonal dynamics traits in the form of open disclosure and engagement in productive conflict, though the evidence that the intervention influenced this behavior is scant.

Process Data Summary

The process data allows the investigator to provide a plausible explanation of the extent to which the intervention has influenced the pattern of impact. For the intervention, the differentials of the impact data at outcome showed the following patterns of dimensional growth for both teams: ‘low growth’ for interpersonal dynamics, ‘high growth’ for partner processing, and ‘medium growth’ for partner-task development (see Table 4.13).

After synthesis of the process data, I reexamined and modified my initial hypothesis of the intervention’s influence. I now propose that the impact data findings reflect a positive relationship between the degree the intervention’s design provided the teams with ongoing opportunities for experiential learning, practice, real application, and recurring reflection of a dimension’s behavior indicators. Next, I will summarize the process data by describing the intervention’s relative influence and interplay with the impact data for each dimension.
**Interpersonal Dynamics**

Analysis of the process data suggests that the intervention influenced some positive changes in both teams’ interpersonal dynamics by outcome. Upon completion of Module 1’s team building activities, the teams seemingly grew in their ability to engage in goodwill and disclosure by noting the shared core values of their partnership and establishing new strategies for improving partner-to-partner communication.

Next, the teams fully participated in Modules 2 and 3. Notably, the activities of these modules did not directly emphasize the development of interpersonal dynamics. However, indirectly, the teams did need to perform at passable levels of goodwill and disclosure to complete the prescribed and optional activities within these modules. The prescribed activities for these modules required the teams to engage in collective reflection on their co-teaching planning and instructional practices, group discussion on prompts related to the complexities of co-teaching, and authentic teamwork. Additionally, both of these modules included an optional activity for the teams to engage in voluntary planning time to co-plan future lessons. Based on my analysis of the process data, both teams actively built on their existing interpersonal dynamics by practicing goodwill and applying communication strategies realized from the intervention.

Module 4 consisted of activities directly and indirectly related to fostering the teams’ interpersonal dynamics. The Gracious Space activity, the Module 4 activity directly related to growing a team’s interpersonal dynamics, appeared to promote disclosure and productive conflict for each of the teams. During this module, the teams discussed and resolved concerns regarding where to meet for lesson planning. Furthermore, by the end of the intervention, both teams had adopted a strategy of having a dedicated time to resolve concerns, an approach presented within the Gracious Space framework and not present at baseline for either team. Similarly to modules 2 and 3, both teams continued to exercise strong goodwill and varying levels of open disclosure in activities that did not directly target improvement of interpersonal dynamics.

Finally, for Modules 5 and 6, the teams engaged primarily in reflection and joint work activities that required the teams to possess satisfactory levels of interpersonal dynamics. Upon successful completion of all the prescribed activities within these two modules, the participants highlighted that for co-teaching teams to realize effective co-teaching, a critical first step represents the teams going through the team building activities as experienced in the intervention and having honest conversations no matter how difficult. Hence, from baseline, the process data from Modules 1 through 6 shows that all the participants deepened their learning on how to develop goodwill and open disclosure to enhance team performance. Furthermore, the participants also appeared to grow within their interpersonal dynamics as measured by implementation of strategies to improve team communication and conflicts.

However, because analysis of the impact data suggests that the Math Team already held high levels of interpersonal dynamics at pre intervention, the extent of the intervention in creating substantial growth for this team appears weak. And, at post intervention, interpretation of the impact data suggested that the English Team experienced ‘low growth’ for interpersonal
dynamics, primarily driven by Teacher A (see Table 4.1). Therefore, the interplay between the intervention’s process and impact provides a weak but positive connection that suggests that the intervention does influence some growth of interpersonal dynamics for co-teaching teams.

**Partner Processing**

Process data findings indicate that the intervention substantially influenced and grew the teams’ partner processing. During Module 1, as a result of participating in the intervention, both teams created new norms to improve their communication, recommitted to meeting longer and with more frequency to engage in joint work, and learned that the biggest obstacle for their teams represented how to co-plan powerful lessons. Therefore, the use of the intervention’s tools to develop their norms and share their hopes and concerns seemed to lay the foundation for these teams to grow within the partner processing dimension.

Modules 2, 3, 4, and 5, together, reflected breakthrough gains in partner processing for both teams. Analysis of the process data, Modules 2 through 5, showed that these teams were able to practice their newly developed norms, work to achieve their co-teaching hopes and concerns in a non-evaluative environment, and expand their repertoire of co-teaching instructional approaches from baseline. During Module 2, both teams were presented with a planning tool (see Appendix D) to facilitate effective lesson planning by using a set routine. After orientating both of the teams with the planning tool throughout the module and providing the teams with substantial practice time, the planning instrument became an anchor and catalyst for partner processing growth for each team.

After Module 2, the planning tool became deeply integrated into both of these team’s practices. Additionally, both teams reported using the planning tool between the modules. Interpretations of the process data also suggest that both groups utilized the planning tool to engage in joint work to develop lessons. The collaborative work for both groups reflected the use of a methodical and systemic approach to lesson plan efficiently and productively. The planning system included discussion of student progress and teacher practices, refinement of learning objectives, consideration of what co-teaching methods to use, debate on how best to design the lesson, and the assignment of roles and responsibilities.

Further analysis of the process data from modules 5 and 6 seemed to affirm growth within the partner processing dimension. During the self-assessment and action planning activity over the course of these two modules, both of the teams appeared to show development in their abilities to co-plan effective co-taught lessons as compared to pre intervention while also indicating a desire to improve even more. The interplay of process and impact data for the partner processing dimension provides a compelling explanation that the intervention significantly influenced these teams to show positive gains within the partner processing co-teacher dynamic. Thus, the impact data showed ‘high growth’ for the partner processing dimension that seemed to result from the intervention's planning tool.
Partner-Task Development

The examination of the process data suggests the intervention influences a bimodal growth pattern for partner-task development. The two growth patterns for the teams represented: 1) modest expansion of co-teaching approaches and 2) generation of intrinsic motivation to broaden their understanding and grow their expertise of the complexities of co-teaching instruction. Pre intervention, all but one of the participants self-rated themselves as not employing a variety of co-teaching practices, a subdimension of the partner-task development dimension. Additionally, the teams seemed unaware of the various co-teaching themes and approaches within the literature.

Module 1, however, appeared to initiate the teams' patterns of growth for the partner-task development dimension. The first sign of increase for the teams in their partner-task development seemed to be sparked by a simple Module 1 activity of introduction of the intervention’s graphic on the various co-teaching approaches and themes developed from the knowledge base (see Appendix A). After analyzing the graphic, the teams acknowledged the simple co-teaching methods already known and also expressed interest in learning more about less familiar co-teaching methods.

While the intervention's graphic resources created enthusiasm for the teams as a means to increase their co-teaching pedagogical knowledge, the reflection and discussion activities on the varying complexities of co-teaching also seemed to enhance partner-task development. In modules 1 through 4, the participants reviewed and discussed videos and written materials on the various co-teaching instructional approaches. Module 1 represented the session that all participants received a general overview via video and written materials on the co-teaching methods from the knowledge base. Module 1 also focused on the supportive and complementary methods, the approaches that require the least amount of interdependence of the models between the pairs. Modules 2 and 3 primarily covered the parallel method, an approach that requires moderate to high levels of team interdependence. Module 4 was designed to deepen the participants’ awareness and understanding of Teaming, the co-teaching approach that arguably demands the highest levels of partner-to-partner interdependence.

By Module 5, interpretation of the process data showed growth in the teams’ understanding of the supportive and complementary methods as well as satisfactory adoption of the parallel method into both teams’ practice. Based on when the supportive, complementary, and parallel approaches were introduced to the teams, analysis of the process data suggests a direct link between the teams' growth in partner-task development and the intervention's activities. For example, after Module 1, the teams made changes within their supportive methods. Additionally, during and after Modules 2 and 3, both teams also made changes in their complementary and parallel teaching practices. The intervention, however, failed to foster Team co-teaching, as neither team considered using the highly interdependent approach of Teaming throughout the entire intervention, even after it was highlighted during Module 4.

During Module 6, the module that emphasized the teams reflecting on their performance and support needs, both teams noted that seeing examples of co-teaching in the classroom was a successful way of promoting effective co-teaching. The teams' Module 6 realization of using
exemplary co-teaching models by video or other means appears to indicate that the intervention’s videos and written materials on the complexities of co-teaching influenced the on the teams’ gains within the partner-task development dimension. Upon examination of all of the process data, growth within the partner-task development dimension also seems linked to the intervention’s planning tool, as the team would not have had a structured opportunity to consider the range of introduced co-teaching approaches without it. The overall analysis of the process data again suggests moderate growth for the partner-task development dimension as these teams seemed to deepen their ability to exercise only three out of the four major co-teaching themes—supportive, complementary, and parallel. However, within Module 6, both of these teams discussed goals to increase and expand knowledge and application of co-teaching complexities as a primary action goal. Therefore, the intervention also appears to foster motivation for the teams to develop and broaden their knowledge of all the co-teaching approaches within the literature.

The process and impact data interplay showed strong linkage and overlap to suggest that the intervention moderately influenced gains in these teams’ partner-task development. For example, as the teams progressed through the modules and engaged in deeper analysis of the complexities of co-teaching, the teams, correspondingly, showed a steady increase in the use and integration of the parallel co-teaching approach into their practice. At the same time, the impact data showed ‘medium growth’ at outcome primarily driven by self-rating gains by all the participants within following two partner-task development subdimensions: "we teach different groups of students simultaneously" and "we can use a variety of co-teaching approaches" (see Tables 4.9 and 4.11). Hence, the interplay between the process and impact data also suggested that the intervention influenced growth in the co-teaching approaches that required low to medium levels of interdependence, such as the complementary, supportive, and parallel approaches, but not the approach that demanded the highest degree of joint work, the Teaming approach. Therefore, the intervention appears to promote growth within the dimension of partner-task development for the co-teacher actions that require low and medium degrees of interdependence, but not the actions that demand a highly interdependent partner-to-partner relationship.

In the examination of the intervention’s influence on the participants, the factors of ongoing opportunities for experiential learning, practice, real application, and recurring reflection of a dimension’s concepts appear as the plausible explanation of how the intervention did or did not work. The dimension with the highest growth, partner processing, had most of the above factors present throughout the invention, whereas the dimension with the lowest growth, interpersonal dynamics, had the least of these factors present with the intervention. Next, I will discuss the implications of the findings to inform further iteration of the invention, the context of the problem of practice, practitioners, and researchers.
Chapter 5: Discussion

Introduction

Schools across the United States aspire to meet the academic, social, and emotional learning needs of all students. In many cases, the public k-12 school system struggles to serve students with disabilities. High school-aged students with disabilities, for the most part, perform lower on a number achievement metrics such as state and federal standardized tests, enrollment in honors and grade-level courses, grade point averages in English, math and science curricula, high school graduation rates, and attainment of meeting four-year college eligibility requirements.

Many school districts, inclusive of school boards, superintendents, district officials, principals, and school leaders strive to prepare all students for college, career, and global citizenship. As a means to quantify college and career readiness, school districts, colleges, postsecondary vocational programs, and employers rely on the graduates' proficiency in English and math. However, based on the English and math achievement of high school graduates, special education students often graduate unprepared for postsecondary pursuits compared to their general education student counterparts.

The issue of equal access and equitable outcomes for individuals with disabilities represents both an internal concern within our educational system as well as an external one. From an external viewpoint, over the past three decades, the passage of U.S. federal legislation has included legal mandates with the intent of ensuring that students with disabilities receive a high-quality free and public education. These pieces of legislation include The Education of All Handicapped Children Act of 1975, the No Child Left Behind Act of 2001, the reauthorization of the Individuals with Disabilities Education Act of 2004 and, recently, The Every Student Succeeds Act (ESSA) of 2015, all of which are meant to support the academic achievement of students with disabilities in public schools. Many school districts are re-examining their existing programs and implementing new programs with the intent to meet the internal and external expectations to prepare all students, especially students with disabilities, for college and career.

Mountain Unified School District (MUSD), an affluent k-12 district, employs the strategy of co-teaching within college preparatory courses to meet the learning needs of students with disabilities for college and career readiness. MUSD offers co-teaching in one math course and two English courses at their comprehensive high school, Mountain High School (MHS). Many practitioners and researchers alike suggest that co-teaching with proper implementation reflects a viable instructional strategy to increase the achievement and college and career readiness of students with disabilities. One aspect repeatedly discussed within the knowledge base are the particular challenges that schools face in implementing successful co-teaching that achieves its desired outcome. The suggested challenges that school actors must address to leverage the promise of co-teaching include scheduling planning time for educators, scheduling students correctly, and providing co-teachers the proper administrator support and adequate professional development. Hence, the need for equity for students with disabilities within U.S. high schools drives my design research study on how to lead impactful co-teaching within secondary schools.
Meeting the Design Challenge and Deriving Design Principles

Meeting the Design Challenge

Analysis of findings data suggests that the intervention met the design challenge of enabling co-teacher pairs to come together and plan efficiently and productively while moderately expanding their use of co-teaching complexities. Before designing the intervention, I identified conflict, logistics, and buffering as factors that the intervention needed to address to shift the co-teacher dynamics to higher levels of performance (See Chapter 1).

Pre intervention, the challenges around moving the co-teaching teams’ practices to higher levels were complicated as the district’s leadership had no systems in place to develop their co-teachers, nor did the teacher pairs hold the group-internal dynamics or pedagogical knowledge to deliver effective co-teaching lessons. As a consequence, the teacher teams had few opportunities to deepen their understanding of co-teaching planning and instructional practices, engaged solely in simple instructional methods, underutilized their lesson planning time, and, ultimately, did not engage in impactful co-teaching practices.

Pre intervention, the district did provide some internal and external co-teaching professional development on co-teaching; however, the training was minimal and sporadic, and therefore ineffective. Overall, the teams had limited support and guidance from district leadership, as they were tasked with meeting the educational needs of one of the district’s lowest performing student populations within a rigorous setting (i.e., students with disabilities within a college preparatory course).

The hypothesized change drivers for the intervention to generate effective co-teaching involved the participants engaging in a learning process grounded in reflective and experiential learning activities along the dimensions of the following co-teaching dynamics: interpersonal dynamics, partner processing, and partner-task development. Another aim of the intervention was for the participants to build their capacity within each of the three dimensions by engaging in activities directly related to their teaching assignment and embedded into their work lives.

The intervention’s progression to foster impactful co-teaching for the participants included the teams, as a unit, engaging in a learning process of making the participants feel psychologically safe, developing the participants’ awareness, and providing the participants with opportunities to apply newly learned concepts within a natural school setting. Hence, the first learning phase for the participants was to create a safe and non-evaluative learning environment for the teams to learn and understand their areas of strength and needed growth.

The next step in the learning process involved the teams reflecting on how to integrate the newly introduced concepts into their existing practice or practicing new concepts presented to them during the intervention or in a real-life setting. The activity for the participants to reflect on their application of concepts presented in each module was also looped into each of the interventions’ modules. The steps outlined above served to grow the participants’ behaviors and allow impactful co-teaching to occur. Next, I discuss the activities within the intervention from
baseline to outcome that generated substantial learning for the teams to engage in effective co-
teaching.

**Activities that Deepened the Learning**

The intervention began with team building activities geared toward promoting teamwork
and awareness that strong levels of partner-to-partner interdependence to lay a foundation of
building interdependence and joint work for the teams. The activities of building awareness by
showing and discussing videos, written materials, and an infographic that covered all of the
complexities of co-teaching motivated the teams to engage in the intervention’s activities. The
strategy of providing a general overview of all the complexities of co-teaching, then beginning
the intervention with simple co-teaching concepts largely familiar to the teams seemed to create
a safe learning environment for learning, as the teams openly affirmed their co-teaching areas of
strength while also acknowledging their areas of growth.

Next, as the activities within the intervention generated an increase in the participants’
intrinsic motivation to grow their co-teaching practices from baseline, the teams entered the most
vital change drivers of the intervention: providing opportunities for experiential learning relevant
to the participants’ daily work of planning jointly via the introduction of a planning tool. The
tools were given time to practice designing lessons for their assigned class with the planning
tool and were also provided with coaching throughout the intervention. After the intervention’s
planning tool was introduced, both teams clearly grew in their planning efficiency, productivity,
and use of the lessons developed within the learning modules of their assigned class. The
planning tool provided the teams with a routine that addressed many of the areas of growth as
self-identified by each team. Moreover, as a result of these teams enhancing their ability to
design lessons jointly by using the planning tool, many aspects the partner processing dimension
and some aspects of the partner-task development dimension were achieved at outcome.

Hence, the intervention’s planning tool played a vital role in fostering growth in both of
the teams’ ability to lesson plan methodically and jointly while considering known and newly
introduced co-teaching approaches that took the learning needs of all students into account. I
suggest, however, that the benefits from the planning tool resulted from giving each team ample
time to use the tool during and between modules as well as providing the teams with coaching on
how to use the planning tool within a psychologically safe setting embedded within their normal
work lives.

Another activity that seemed to generate moderate growth for the co-teaching teams was
developing awareness of the range of co-teaching instructional practices through reflective
dialogue and review of videos and written materials. Before the intervention, both of these teams
primarily engaged in solely rudimentary co-teaching instructional practices. From baseline, the
process for expanding the teams’ abilities to use various co-teaching complexities was rooted in
the strategy of spiraling and scaffolding up and working with the co-teacher pairs at their zone of
proximal development by introducing simple to complex co-teaching approaches in a linear
fashion. For example, early in the intervention, the teams analyzed how to use the supportive co-
teaching approach. Then, in the following session, the teams were introduced to and critically
analyzed the concept of engaging in co-teaching instruction when each co-teacher is solely
responsible for a group of students in the class simultaneously. Within the intervention, the process of introducing more and more complex co-teaching methods continued until all methods from the knowledge base were presented to the teams at least once.

As a result of applying the process described above, the teams grew from engagement in simple teaching co-teaching practices that required minimal interdependence to showing growth in more complex co-teaching practices that required notable partner-to-partner interdependence and co-teacher trust. For example, by the midpoint of the intervention, both the teams were routinely alternating roles on which co-teacher played the lead role in several lessons and designed lessons where each co-teacher was responsible for their group of students in the class simultaneously, practices that were not present at baseline. Additionally, in most cases, except for the co-teaching approaches that required the highest levels of interdependence, when the teams were introduced to an unfamiliar co-teaching method during the intervention the method was then integrated by the teams into their daily practice.

Therefore, the activities of using infographics, written materials, and videos to grow the teams' ability to engage in more complex co-teaching practices worked to some extent, as the teams moved from rudimentary to moderate levels of complex co-teaching methods by the end of the intervention.

Thus, the powerful learning that occurred within the intervention seemed to result from three types of activities. The first type of activity that appeared to set the stage for noteworthy learning were the intervention’s team building and awareness of the need for partner-to-partner interdependence activities that allowed the teams, as a unit, to identify their areas of strength and needed growth within a psychologically safe and supportive learning environment. The next activity that seemed to generate the most learning within the intervention was introducing the teams to a routine and tool to incorporate their planning and interdependence into their daily work lives. The third activity that showed somewhat notable learning and moderate growth for the team was providing structured time for the teams to analyze exemplary co-teaching frameworks to move their instructional practices from simple to more complex co-teaching instructional practices.

**Activities Not Working as Intended**

Despite some success of reviewing exemplary co-teaching models, the intervention appeared to fall short in developing the co-teachers’ capacity to consider or use the Teaming approach. The Teaming approach is one of the most interdependent and demanding co-teaching methods. A major intended outcome of the intervention was to allow the co-teachers to advance from simple co-teaching instructional practices at baseline to a level where they could use all of the complexities of the co-teaching framework. Because this outcome was not achieved, the activities centered on growing the teams’ ability to use the full range of co-teaching complexities will need to be revisited in its next iteration.

Another activity that seemed ineffective compared to the other activities was the Gracious Space activity. The activity was designed to teach the teams how to use a framework presented with the Gracious Space activity (i.e., a spirit, setting, invite the stranger, and learn in
public) to engage in productive conflict and open disclosure of concerns. However, when this activity was introduced midway through the intervention, the participants seemed to appreciate the activity, but they also appeared to rush through it so as to get to their practice planning time. Though the teams did show some evidence of learning that may have been influenced by the Gracious Space activity, both teams also showed relatively low interest in Gracious Space as compared to all of the other activities. Therefore, I suggest that the Gracious Space activity needs retooling or omission in future iterations of the intervention.

Another activity that did not work as intended was how the teams used the Maryland State Department of Education’s co-teaching reflection tool. As a result of using the tool, the teams acknowledged that they saw substantial improvement in their planning practices and moderate improvement in their ability to deliver a variety of co-teaching approaches while also determining areas of growth needs for their teams and district leadership. From the reflection activity, each team also developed an action plan to expand on their ability to deliver the full range of co-teaching complexities for the following school year. Though the intent of using the reflection tool was to deepen team co-teaching practices, because this instrument was used at the end of the intervention I was unable to determine its actual learning impact and influence.

Next, I examine the intervention’s strengths and effectiveness by briefly discussing the change in the dimensions of co-teaching dynamics at outcome to validate its design principles.

Validation of the Design Principles

Interpersonal Dynamics

Both of the teams possessed relatively high interpersonal dynamics at baseline. Therefore, discussing the intervention’s effectiveness for this dimension is challenging. Additionally, the findings of ‘low growth’ for each team at outcome for interpersonal dynamics also limited the ability to determine the effectiveness of the intervention in this area. However, at outcome, both of the general education teachers showed low to medium relative growth and the English team grew within the subdimensions of "communicate concerns freely," "a process for conflict resolution" and "model teamwork for students." Moreover, the investigator rubric for interpersonal dynamics showed that both teams developed systems to discuss sensitive topics related to their co-teaching assignment, a skill that requires the ability to engage in trust, willingness to cooperate, openness, and interdependence. Hence, the intervention’s team building activities and Gracious Space activity provide scant, but promising findings that suggest that the intervention’s design principles may help co-teaching teams engage in goodwill and open disclosure within the dimension of interpersonal dynamics as well as assist in the promotion of impactful co-teaching. In the case of the dimension of interpersonal dynamics, the validation of the intervention’s design principles are inconclusive, but may represent underlying design principles that supported the overall effectiveness of the intervention.

Partner Processing

The teams showed strong partner processing growth at post intervention, as explained by high impact growth from baseline. I attribute the substantial growth for both teams to the
Intervention’s design. This increase can be attributed to several key factors. For example, the team building activities allowed the teams to understand that they needed to work interdependently for effective co-teaching to occur and that engaging in previously unknown co-teaching concepts could have major impacts on their team. Additionally, at baseline, both of these teams disclosed that their biggest obstacle and area of needed growth was how to plan effective co-teaching lessons. Therefore, because the intervention provided a structured planning tool and predictable practice planning time for the teams to strengthen their ability to plan effective co-teaching lessons, the intervention’s design principles were closely aligned to both of these teams’ self-identified areas of needed growth. All in all, both of these teams demonstrated a strong affinity and comfort with using a planning routine to design their lessons. Notably, before the intervention, when designing lessons, neither of these teams used a well-delineated structure to co-plan lessons that accounted for teacher and student needs, the lesson’s learning objective, or the complexities of co-teacher or clearly stated roles and responsibilities.

Another rationale for the teams ‘high growth’ for the partner processing dimension was that the intervention was most aligned to developing this particular dimension’s desired state for the teams—The team engages jointly in the use of routines to facilitate the identification of student learning goals and needs and co-teacher roles and responsibilities. Additionally, at outcome both team’s lesson plans reflected an increase in the complexities of co-teaching. The intervention’s modules were held during the teams’ normally scheduled planning time, an intentional design principle of the intervention, while the planning tool was directly aligned to each teams’ daily work of lesson planning for their assigned classes. Therefore, the effectiveness of the intervention’s design principles as a means to get the co-teachers to plan interdependently is validated by the study’s findings of high impact growth and process data influence for both teams.

**Partner-Task Development**

Partner-task development, the third dimension for the study, showed ‘medium growth’ trends for both of the teams at outcome. Each of the teams learned new co-teaching instructional approaches, moving from primarily implementing simple co-teaching approaches at baseline to applying more complex co-teaching approaches at outcome. However, upon deeper inspection of the ‘medium growth’ within the dimension, the teams were unable to engage in the full range of co-teaching complexities. Moreover, the teams’ development and understanding of how the various co-teaching approaches further and deepen learning for all students appeared weak.

Throughout the intervention, the selection of whether to implement or apply a particular co-teaching method seemed more dependent on the team’s readiness and interest as opposed to meeting and addressing specific learning needs of all their students. Upon review of the activities within the intervention, the reflective and experiential learning activities of reviewing videos and written materials on the various co-teaching approaches showed promise. After the teams engaged in the hypothesized change drivers outlined above, they either adopted the newly introduced co-teaching practices or considered their application. Hence, the teams were able to implement and learn new co-teaching approaches from baseline that were noteworthy levels above the basic levels from where they started before experiencing the intervention.
However, though both teams seemed to apply the new co-teaching approaches once introduced, conversations on how the newly learned co-teaching methods were aligned to furthering the specific learning needs of particular students within their classroom were not a part of the intervention's design. Instead, the intervention’s activities linked to the partner-task development dimension were more focused on connecting the partners to one another in order to co-plan how to use various co-teaching methods, often lacking an equal emphasis on connecting the teams' joint work on meeting the learning needs of all students.

Therefore, the design principles of the intervention did grow the teams’ ability to adopt new co-teaching instructional approaches. However, the co-teacher team action of critically analyzing exemplary co-teaching models and its intended benefits within the intervention did not deepen the teams learning on how to use various co-teaching approaches to connect and meet the specific learning needs of their students.

Thus, the extent that the design principles of the intervention deepens the teams' ability to connect their choice of instruction practice to meet the specific learning needs of students within their classroom was not present or validated within the study’s finding. However, the design principles of the intervention were effective in advancing both of the teams’ away from solely using simple co-teaching methods as their general practice and approach use for their students.

**Deriving Design Principles**

The first iteration of the intervention enhanced the co-teacher teams’ ability to engage in a structured routine to talk to each other, plan together, and learn various modes of co-teaching complexities. The design principles within the intervention work to develop teacher interdependence in organizing and planning routines at high levels and in the learning of co-teaching complexities at moderate levels. Therefore, as a result of the study, I distilled design principles in the "if-then" form of what in the intervention worked and why it did so, as discussed in R. Mintrop (2016).

The if-then design principles I derived from the study propose that if one needs to overcome the norms of teacher privacy and a lack of organization within co-teaching teams, the best practice would then be to design experiential learning activities that foster traits within the dimensions of interpersonal dynamics and partner processing for the participants. Additionally, if one needs to remedy the lack of co-teaching instructional knowledge with a co-teaching team, the most effective practice is to engage the teams in experiential learning activities related to unpacking and understanding the complexities of co-teaching, an attribute within the dimension of partner-task development.

The intervention, however, appears to fall short and lacks design principles that can influence the teams to plan targeted lessons that address students’ learning needs while also monitoring the actual learning that occurred. Hence, the current state of the intervention needs to change by incorporating if-then design principles that foster the ability of the co-teaching teams to connect to student learning. By growing the teams’ interdependence and knowledge of the complexities of co-teaching, the first iteration of the intervention represented the first step in leveraging the full potential of the co-teaching framework to meet the learning needs of all students.
students. Therefore, to move the co-teacher teams to the next level, the next iteration of the intervention must not only enhance the teams’ ability to structure their meeting time, lesson plan jointly, and use various co-teaching methods, but should also grow the teams’ ability to connect to student learning.

**Further Iterations**

Based on study findings, I suggest two significant modifications to the intervention to improve its design to grow impactful co-teaching. The first change for the next iteration of the intervention is to integrate professional development for the participants on how to connect to the learning needs of students. Therefore, I suggest that the next version of the intervention provide intensive professional development through reflective and experiential learning activities on actions that the teams can take to design lessons that account for the learning needs of all students. An example of this recommended change would be to incorporate activities in Universal Learning for Design (UDL) for the teams throughout the entire intervention. Edyburn (2010) presented the following definition for UDL:

Universal Design for Learning (UDL). (A) Provides flexibility in the ways information is, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and (B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities. (p. 34)

The second major insight for how to change the intervention is to have a greater focus on diminishing teacher privacy and increasing teacher interdependence by adding modules into the intervention that include peer observations of other teams experiencing the intervention in two settings—planning and instruction. The learning target for these modules would be for the teams to observe co-teaching planning and instructional practices in order to get observational feedback that would catalyze their growth and reflection in their areas of strength and needed growth for each dimension. Hence, the next iteration of the intervention needs to include an intense focus on how to connect the teams to student learning and continue to break down the walls of teacher privacy and grow interdependence. Therefore, in the next iteration of the intervention, I suggest modules that require the teams to learn through processes of peer observations in the planning sessions and in the classroom, a process that includes receiving critical feedback on the central question of how co-teaching teams connect to students to further the learning of all their students.

**Re-Examining the Theory of Action**

The theory of action for the study was grounded in providing the participants with professional development to build their capacity within the co-teaching dynamics of interpersonal dynamics, partner processing, and partner-task development as a means to generate the actualization of impactful co-teaching that meets the learning needs of all students. As a result of the intervention, the participants grew markedly in their ability to meet in a productive manner while showing moderate growth in their capacity to consider and use a variety of co-teaching complexities at the surface level. Therefore, the intervention's theory of action worked
well in increasing the teams’ ability to work together within the co-teacher framework for planning and, to some extent, expanded upon the teams' use of various co-teaching methods within the classroom.

However, the theory of action did not possess adequate framing on getting the participants to connect their joint work to furthering student learning. For example, upon re-examination of the dimensions within the theory of action (see Table 2.1), none of the dimensions of co-teacher dynamics mention connecting the teams to student learning as a desired state. Hence, the current theory of action for the intervention is lacking in theories on how to connect the co-teachers to the learning needs of all of their students, both individually and as a unit. Upon review of the modules, the intervention did not draw on explicit theories of how to connect the co-teacher teams to the learning needs of the students. Theories such as the zone of proximal development, the cycle of inquiry, lesson study, culturally relevant pedagogy, and universal design for learning are all related theories that could be included in a future version of the intervention so as to foster the teams' ability to connect to the learning needs of their students.

Therefore, after the re-examination of the theory of action, I recommend a review of the knowledge base on connecting teachers to the learning needs of students and that each of the dimensions proposed in the study includes connecting co-teachers to student learning attributes. I also suggest that the theory of action draw on activities that allow the team to understand the extent they are connecting to furthering student learning, then learn about and be giving opportunities to practice and apply how they should connect to student learning within the natural school setting. Hence, I suggest that the next iteration of the theory of action retain the development of the dimensions of co-teacher dynamics with strategically selected concepts from the learning theories as described above integrated into each dimension as a learning outcome for the co-teaching teams.

**Action Research**

As the action researcher, I represented the designer, researcher, and school leader. Because of close connections to the intervention, I employed mechanisms of transparency and clarification to control the bias concern of putting a positive spin on the data. As the designer, I focused on following a design process to minimize concerns of bias for the participants. As the researcher and school leader, to protect the participants and myself from concerns of bias, I centered my attention on remaining solely neutral throughout the data collection and analysis processes regardless of the data’s confirming or disconfirming nature.

I regularly revisited the methods prescribed for the study to clarify my researcher role throughout the entire investigation. From the onset of the study, I held authentic academic and intellectual interest in investigating the hypothesis of using dimensions of co-teaching dynamics to generate impactful co-teaching to meet the needs of all students. My desire to engage in the research from an academic and intellectual vantage point eclipsed any concerns of action researcher bias. I also remained focused on analyzing the data to determine if any patterns and insights would surface.
I methodically documented all of the steps within my study processes to note the shortfalls, successes, and corrections for future design research purposes and to support the iterative nature of design research. From the onset to the end of the study, I continually referred to the proposed methods as a strategy to self-monitor my fidelity to the study’s methodology, inclusive of revisiting the tools used to collect and analyze data.

As a result of my high adherence to the design process and a thorough analysis of the data, the findings and interpretation excludes concerns of bias and meet the rigorous standards of action research. Next, I discuss concerns around the roles of the designer, researcher, and school leader in greater depth.

**Concerns Around the Role of Designer**

In my designer role, to diminish concerns of bias, I consulted the literature and checked with practitioners, experienced researchers, my advisor, and colleagues to synthesize the design and structure of the intervention. Hence, the intervention represented a collection of synthesized information from multiple sources that received critical feedback from colleagues and my advisor. Therefore, my approach was that I was studying an untested theory as I designed the intervention only after a thorough review of the knowledge base and a process of consulting with colleagues and my advisor.

As the designer of the intervention, I embedded a safeguard against collecting bias data by gathering data from the co-teachers within the team and an individual setting for triangulation and participant protection purposes. As the designer, I developed protections for each co-teacher so they could speak openly and freely without judgment from their partner. To explain further, after each module within the intervention, the methods within the study required the researcher to interview each of the participants separately, using scripted prompts to assess the effectiveness of the module and in essence the intervention (See Appendix B). Therefore, as the researcher, I purposely prescribed the use of an instrument to unknowingly acquire feedback from the participants on whether the intervention was working as intended.

Hence, as I strictly followed the methods of design research, sought critical feedback from colleagues and my advisor through the design process, and created an instrument within the intervention itself to allow participants to speak without their partner present, I believe that I addressed the concerns of the designer role for this study.

**Concerns Around the Role of Researcher**

In my action researcher and insider roles, I acknowledged researcher integrity issues as real factors that required attention, critical examination, and could not go unaddressed. As a result, I identified the data collection and analysis processes as actions that were highly susceptible to bias and subjectivity. Therefore, when collecting data, I carefully followed the procedures outlined in the study and used the data collection instruments with consistency throughout the entire study.
Additionally, before conducting the study, colleagues, experienced researchers, and my advisor reviewed all of the tools and instruments used to collect data to allay concerns of bias and data integrity. I also recorded all of the collected data and had all of the recordings transcribed by an independent contractor that specializes in transcription work to maintain the integrity of the audio-recorded data. Then, upon review and analysis of the collected data, I followed the protocols and procedures as outlined in the study and consulted with colleagues and my advisor to validate my data analysis.

Upon review of researcher concerns, I not only took the steps discussed above to divorce myself from concerns of action research but also followed the guidance of doctoral graduates and experienced researchers as an additional step to ensure integrity when collecting and analyzing the study’s impact and process data.

**Concerns Around the Role of School Leader**

I served as the principal of the school where the study took place. Therefore, measures to control for bias were necessary not only for myself but the participants as well. As the principal, I chose and engaged in a study where the results, whether positive or negative, had no consequence to the school’s overall academic standing, funding, or status as well as having no bearing on my employment status or compensation. To limit the school leader concerns, I also partnered with doctoral candidate colleagues, doctoral graduates, and my doctoral advisor to assist with the collection and analysis of the data. One of these colleagues had expertise in special education within my district.

Another school leader concern was that the participants would feel compelled to report promising data or engage in Hawthorne effect like behaviors. Therefore, in addition to designing instruments and protocols to ensure the collection of authentic data, I used eligibility criteria for all of the participants for the study. Thus, to participate in the study and protect the co-teachers from concerns of bias, the participants met the following standards:

1. The participants received written and oral notice that participation in the research project was voluntary and that they could withdraw from the study without any penalty to their employment status.

2. No co-teacher was invited to participate in the study during his or her formal evaluation year.

3. Participants in the study were tenured employees. No teachers in the study had an employment status of temporary or probationary.

4. Only research subjects that possessed tenure at the 100% level were invited to participate in the study.

5. The participants ultimately determined the time and place of the intervention’s modules and individual interviews.
Hence, the first step in preventing the co-teachers in the study from falsely reporting data was selecting participants that had no evaluative consequences based on their participation or performance in the study. Other steps I took to ensure that the participants disclosed their true feelings represented me consciously engaging in particular actions throughout the study. At the beginning of each session, I reminded the participants that everything is confidential, the study was voluntary, and that I needed their honest and critical feedback. Additionally, I used pseudonyms when interviewing the participants and I responded neutrally when the participants reported confirming or disconfirming data of the intervention’s effectiveness.

Therefore, upon reflection of the school leader concerns, I critically examined my role of the school’s principal, where the study occurred, and employed concrete steps to limit the concerns of the school leader role. These steps inclusive of the procedures used to conduct the study and select the participants, also reflected me as the researcher engaging in explicit actions to dissuade the co-teachers from reporting data to appease me within my school leader role as the school's principal.

**Study Limitations**

The nature of design research poses challenges for identical replication of a study. Additionally, the small sample size (n=4) of participants limits the study’s implications. Nevertheless, I suggest that this design uncovered a few relatively well-validated design principles that might be transferable to new iterations. Intervention activities used for the design study present a transferable prototype, regarding impactful activities and design principles that school leaders can apply to lead and support the development of effective co-teaching within their schools or districtwide.

The context for this study represented an affluent, high-performing, and suburban public high school with a relatively large special education population. The design principles of fostering and leading impactful co-teaching integrating special education and general education functions that I derived from this study need to be seen in this context, but may nevertheless travel with appropriate adjustments to different contexts.
References

*Teachers College Record, 104*(3), 421-455.


doi:10.1080/10474410903535398


doi:10.1080/10474410903535380


doi:10.3102/00028312038004915


Supovitz, J. A. (2002). Developing Communities of Instructional Practice. Teachers College Record, 104(8), 1591-1626. doi:10.1111/1467-9620.00214


Appendices

Appendix A: Co-Teaching Approaches and Themes
Adapted from Friend and Bursuck (2006) and Villa et al.
Appendix B: IMPACT Module Debrief Questions
Adapted from Haslam (2010)

1. Which of the following statements best describes the primary purpose of last week’s co-teaching workshop? (Select one.)
The purpose of the last week’s workshop was:
A. To communicate new ideas for me to consider using in my classroom.
B. To provide an opportunity for me to learn from other teachers.
C. To help me understand co-teaching fundamentals.
D. To help me apply/implement a co-teaching practice in my classroom.
E. Not clear.
F. Other (specify).
Probing Question(s):
What activities during the workshop led you to this conclusion? (Please explain your answer)

2. Which of the following statements best describes the usefulness of last week’s co-teaching workshop? (Select one.)
A. It was a good start.
B. It was a good start, but I have a lot of questions.
C. It was a good start, and I look forward to using the new ideas in my classroom.
D. It provided everything I need to use the new ideas in my classroom.
E. I don’t think that these ideas will work very well in my classroom.
F. It’s too soon to tell.
Probing Question(s):
What suggestions do you have to improve the workshop to make it more relevant to your co-teaching assignment? (Please explain your answer)

3. Indicate the extent to which the co-teaching workshop met your professional learning needs. (Select one.)
A. It addressed my professional learning needs completely.
B. It addressed some of my professional learning needs.
C. It did not address my professional learning needs.
D. This professional development did not help much because I was already familiar with this topic.
Probing Question(s):
What recommendations would you make, so this workshop better meets the needs of co-teachers? (Please explain your answer)

4. To what extent was last week’s co-teaching workshop aligned with school/district goals/priorities for improving instruction? (Select one.)
A. The co-teaching workshop was very closely aligned with (goals/priorities) for instructional improvement.
B. The co-teaching workshop was somewhat aligned with (goals/priorities) for instructional improvement.
C. The co-teaching workshop was not aligned with (goals/priorities) for instructional improvement.
D. The co-teaching workshop was inconsistent with (goals/priorities) for instructional improvement.
E. I don’t know.
Probing Question(s):
What recommendations would you make, so this workshop better meets the needs of co-teachers? (Please explain your answer)

5. Which of the following statement best describes the likelihood that you will apply what you learned in last week’s co-teaching workshop in your classroom? (Select one.)
A. I have already (practiced/applied) (skill/practice) in my classroom.
B. I have already (practiced/applied) (skill/practice) in my classroom, and it seemed to work well.
C. I have already (practiced/applied) (skill/practice) in my classroom, but it was not appropriate for my students.
D. I look forward to (practicing/applying) (skill/practice) in my classroom in the next few weeks.
E. I look forward to (practicing/applying) (skill/practice) in my classroom sometime later this year.
F. I would like to (practice/apply) (skill/practice), but I don’t have the materials that I need.
G. I don’t think that these things will work with my students.

Probing Question(s):
(Please explain your answer)

6. Which of the following statements best describes how last week’s co-teaching workshop compares with other professional development in which you have participated during the past six months? (Select one.)
   A. This professional development was more useful than other professional development that I have participated in.
   B. This professional development was about the same as other professional development that I have participated in.
   C. This professional development was less useful than other professional development that I have participated in.
   D. I don’t have an opinion.
   E. I don’t have an opinion because I haven’t participated in any other professional development in the last six months.

Probing Question(s):
What suggestion do you have to improve this workshop? What other comments do you have about this workshop, strengths or recommendations?
Appendix C: IMPACT Pre/Post Interview
(Adapted from the Villa et al. (2004) survey Are We Really Co-Teachers)

Rating Scale: (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree

1. As a co-teaching pair, on a rating scale of 1-5, with 1 representing “strongly disagree” and 5 representing “strongly agree”, rate the following, you and your partner agree on the curriculum standards that will be addressed in a lesson.

   Strongly disagree 1 2 3 4 5 Strongly agree

   Probing Question(s):
   What process do you use, if any, to come to an agreement? (Please explain your answer)

2. On the same rating scale, rate the level you and your partner give feedback to one another on what goes on in the classroom.

   Strongly disagree 1 2 3 4 5 Strongly agree

   Probing Question(s):
   When is this done? (Please explain your answer)

3. Please rate on a 1 to 5 scale with five being strongly agree, as a co-teacher pair, you and your partner communicate concerns freely.

   Strongly disagree 1 2 3 4 5 Strongly agree

   Probing Question(s):
   When does this type of communication happen? (Please explain your answer)

4. Please rate the following statement for your co-teacher team, “we have a process for resolving our disagreements and use it when faced with problems and conflicts.”

   Strongly disagree 1 2 3 4 5 Strongly agree

   Probing Question(s):
   What does this process look like? (Please explain your answer)

5. During instruction, rate the level you and your co-teacher partner model collaboration and teamwork for your students.

   Strongly disagree 1 2 3 4 5 Strongly agree

   Probing Question(s):
   Please tell me what this looks like? (Please explain your answer)

6. Please rate the level you feel you and partner celebrate the process of collaboration/co-teaching and the outcomes and successes.

   Strongly disagree 1 2 3 4 5 Strongly agree

   Probing Question(s):
   In what ways do you celebrate with your co-teacher? What types of outcomes or successes have you recently celebrated (Please explain your answer)
7. We decide which Collaborative/Co-Teaching model we are going to use in a lesson based on the benefits to the students.

   Strongly disagree  1  2  3  4  5  Strongly agree

   *Probing Question(s):*  
   How do you and your co-teacher decide on which co-teaching model to use? (Please explain your answer)

8. We share responsibility for deciding what to teach.

   Strongly disagree  1  2  3  4  5  Strongly agree

   *Probing Question(s):*  
   How do you and your co-teacher determine these responsibilities? (Please explain your answer)

9. We share ideas, information, and materials.

   Strongly disagree  1  2  3  4  5  Strongly agree

   *Probing Question(s):*  
   What does this sharing of ideas, information, and materials look like? (Please explain your answer)

10. We have regularly scheduled times to meet and discuss our work.

    Strongly disagree  1  2  3  4  5  Strongly agree

    *Probing Question(s):*  
    How many times per week do you and your co-teacher meet and for how long?

11. We use our meeting time productively.

    Strongly disagree  1  2  3  4  5  Strongly agree

    *Probing Question(s):*  
    What process do you use to make your meeting time effective? (Please explain your answer)

12. We depend on one another to follow through on tasks and responsibilities.

    Strongly disagree  1  2  3  4  5  Strongly agree

    *Probing Question(s):*  
    What types of task and responsibilities do you depend on for your partner to do? What responsibilities do you have in this co-teaching relationship?

13. We share responsibility for differentiating instruction.

    Strongly disagree  1  2  3  4  5  Strongly agree

    *Probing Question(s):*  
    What does this look like?

14. We are flexible and make changes as needed during a lesson.

    Strongly disagree  1  2  3  4  5  Strongly agree

    *Probing Question(s):*  
    How so? Why or why not?
15. We include other people when their expertise or experience is needed.

   Strongly disagree 1 2 3 4 5 Strongly agree

   *Probing Question(s):
   Why or who not do you feel working with others outside of your co-teacher pair is important?

16. We teach different groups of students at the same time.

   Strongly disagree 1 2 3 4 5 Strongly agree

   *Probing Question(s):
   What is your perspective on this strategy?

17. We identify the resources and talents of each other to foster student learning.

   Strongly disagree 1 2 3 4 5 Strongly agree

   *Probing Question(s):
   Why does this happen? *How does this happen?

18. We can use a variety of collaborative/co-teaching approaches (i.e., supportive, parallel, complementary, team teaching).

   Strongly disagree 1 2 3 4 5 Strongly agree

   *Probing Question(s):
   Why or why not does this happen?

19. We identify student strengths and needs.

   Strongly disagree 1 2 3 4 5 Strongly agree

   *Probing Question(s):
   How does this play a role in planning your co-taught lessons?
### Appendix D: IMPACT Intervention Sequence of Activities

<table>
<thead>
<tr>
<th>Pre Intervention (20 min–30 min)</th>
<th>IMPACT Pre Intervention Interview (See appendix C to review these questions)</th>
</tr>
</thead>
</table>
| Module 1 (60-80 min.)            | • Values & Norms  
   • What is co-teaching?  
   • SHARE  
   • Co-Teaching Approaches  
   • Supportive Approaches  
       o One Teach, One Observe  
           ▪ Student Learning Style Observation  
       o One Teach, One Assist  
           ▪ While Teacher A is lecturing, Teacher B could be: |
| Debrief #1 (5 min.–10 min)       | IMPACT Intervention Post-Workshop Questions, Co-Teacher Individually (See appendix B to review these questions) |
| Module 2 (60-80 min.)            | • Check-In—  
   • Benefits of Co-Teaching  
   • Co-Teaching Responsibilities  
   • Tips and Strategies for Role Differentiation—Teacher Actions During Co-Teaching  
   • VIGNETTES: PARALLEL CO-TEACHING  
   • The Planning Process |
| Debrief #2 (5 min.–10 min)       | IMPACT Intervention Post-Workshop Questions, Co-Teacher Individually (See appendix B to review these questions) |
| Module 3 (60-80 min.)            | • Check-In  
   • Learning Objectives and Entry/Exit:  
       o The co-teachers will deepen their understanding of how to use the co-teaching variations of supportive, parallel, and complementary approaches to addressing instructional challenges to promote student learning  
       o The co-teachers will refine their planning process to optimize the expertise of the content specialist and the access specialist for lesson planning  
       o The co-teachers will know how to create a bell-to-bell co-teaching lesson plan that meets students learning needs  
   • VIGNETTES: PARALLEL CO-TEACHING (Parallel Video)  
   • Tips and Strategies for Role Differentiation—Teacher Actions During Co-Teaching (Complementary Video)  
   • The Planning Process Part II (Pg. 5)  
   • Lesson Planning Practice  
       o Review (20% of time)  
       o Plan Instruction (60% of time)  
       o Assign Responsibilities (20% of time)  
   • The Planning Process Part II (Pg. 14)  
       o Co-Teaching Weekly Lessons  
       o 1-3 Lessons  
   Exit Ticket |
<p>| Debrief #3 (5 min.–10 min)       | IMPACT Intervention Post-Workshop Questions, Co-Teacher Individually (See appendix B to review these questions) |</p>
<table>
<thead>
<tr>
<th>Module 4</th>
<th>(60-80 min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Check-In</td>
<td></td>
</tr>
<tr>
<td>• <strong>Learning Objectives and Entry/Exit:</strong></td>
<td></td>
</tr>
<tr>
<td>o The co-teachers have the skills, confidence, ability and framework (strategy) to express their ideas and concerns freely between one another in a productive manner. <em>—Having a hard conversation with your co-teacher partner.</em></td>
<td></td>
</tr>
<tr>
<td>o The co-teachers will deepen their understanding of how to use the co-teaching variations of supportive, parallel, complementary and team teaching approaches to address instructional challenges to promote student learning</td>
<td></td>
</tr>
<tr>
<td>o The co-teachers will refine their planning process to optimize the expertise of the content specialist and the access specialist for lesson planning</td>
<td></td>
</tr>
<tr>
<td>o The co-teachers will know how to create a bell-to-bell co-teaching lesson plan that meets students learning needs</td>
<td></td>
</tr>
<tr>
<td>• <strong>Gracious Space</strong> (Video)—<em>Gracious Space is a spirit and setting where we invite the stranger and learn in public.</em></td>
<td></td>
</tr>
<tr>
<td>• <strong>Gracious Space Overview/Competency Worksheet</strong>—Individual</td>
<td></td>
</tr>
<tr>
<td>• <strong>Teaming Handout</strong> (Teaming Video)</td>
<td></td>
</tr>
<tr>
<td>• <strong>The Planning Process Part II</strong> (Pg. 5)</td>
<td></td>
</tr>
<tr>
<td>• <strong>Lesson Planning Practice</strong></td>
<td></td>
</tr>
<tr>
<td>o Review (20% of time)</td>
<td></td>
</tr>
<tr>
<td>o Plan Instruction (60% of time)</td>
<td></td>
</tr>
<tr>
<td>o Assign Responsibilities (20% of time)</td>
<td></td>
</tr>
<tr>
<td>• <strong>The Planning Process Part II</strong> (Pg. 14)</td>
<td></td>
</tr>
<tr>
<td>o Discussion</td>
<td></td>
</tr>
<tr>
<td>Exit Tickets</td>
<td></td>
</tr>
</tbody>
</table>

| Debrief #4 (5 min.—10 min) | IMPACT Intervention Post-Workshop Questions, Co-Teacher Individually (See appendix B to review these questions) |

| Module 5 (60-80 min.) | • Check-In & Preview Module 5 |
|                       | • **Lesson Planning Practice** |
|                       | • Set Last Session Date |
|                       | • Review Reflection Tool Reflection Tool Link—https://goo.gl/q49DTG |
|                       | • **Final Assignment** |
|                       |   o **Bonus Assignment** |

| Module 6 (60-80 min.) | • Check-In 5 min. (As a Team) |
|                       | • Review Reflection Tool Reflection Tool Link—https://goo.gl/q49DTG 20 min. (Max) |
|                       | • **Final Assignment** (15 min) |
|                       | • Celebration (Food and Treats) |

| Post Intervention (20 min–30 min) | IMPACT Post Intervention Interview (See appendix C to review these questions) |
### Appendix E: IMPACT Planning Protocol

Adapted from (Land & Sulzberger, 2014)

Co-Teacher Learning Team: ______________________________

Norms:

Date: _______ Note taker: ____________ Timekeeper: ____________

#### Pre–Plan

- Preview upcoming content
- Write down individual student needs, resources, and activities
- Consider student IEP goals and accommodations
- Prepare mentally

<table>
<thead>
<tr>
<th>Reflect on teacher and student performance (20% of time)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• What worked well?</td>
<td></td>
</tr>
<tr>
<td>• What are areas of concern?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Co-Plan the Lesson (60% of time)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discuss the big picture challenges</td>
<td></td>
</tr>
<tr>
<td>• Discuss the practices/content</td>
<td></td>
</tr>
<tr>
<td>• Plan content delivery</td>
<td></td>
</tr>
<tr>
<td>• Consider variations of co-teaching</td>
<td></td>
</tr>
<tr>
<td>• Design practice activities</td>
<td></td>
</tr>
<tr>
<td>• Plan assessment strategies (group, individual, modified)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assign Responsibilities (20% of time)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify needed materials</td>
<td></td>
</tr>
<tr>
<td>• Clarify teaching roles and responsibilities</td>
<td></td>
</tr>
<tr>
<td>• Write out responsibilities for all involved</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaluate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Debrief</td>
<td></td>
</tr>
<tr>
<td>• Praise each other’s efforts</td>
<td></td>
</tr>
<tr>
<td>• Critique the week’s activities</td>
<td></td>
</tr>
<tr>
<td>• Use problem solving strategies</td>
<td></td>
</tr>
<tr>
<td>• Revisit roles and responsibilities regularly</td>
<td></td>
</tr>
</tbody>
</table>


Appendix F: IMPACT Intervention: Module 1 (Partial Activities)

Activities

Partner Icebreaker Activity

The Listening Dilemma

(Will put reference)

<table>
<thead>
<tr>
<th>The Listening Dilemma</th>
<th>Listening Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>• We speak at a rate of about 150 words per minute (wpm).</td>
<td>• Paraphrase the message to the speaker in order to confirm your understanding.</td>
</tr>
<tr>
<td>• But we can hear at a rate of about 1,000 wpm.</td>
<td>• Repeat the message to help you remember what was said.</td>
</tr>
<tr>
<td>• This gives us a lot of extra time!</td>
<td>• Probe for missing information.</td>
</tr>
<tr>
<td>• What do we do with this time?</td>
<td>• Clarify any points that you might not completely understand.</td>
</tr>
<tr>
<td>[Image: two people talking]</td>
<td>• Remember the important points of the message for future application.</td>
</tr>
</tbody>
</table>
Core Values Activity
(Ethicalleadership.org, 2015)

“Knowing your core values and having the courage to act on them on behalf of the common good.”

This exercise will help you clarify your core values. It is a challenging exercise, and it will be more meaningful if you do it silently and on your own.

During this process, highlight the values most important to you. To do that, you’ll remove some from the list. This does not mean that you are throwing values away. The ones you identify as important will always be important. The narrowing process helps you determine your CORE Values. Pay attention to your inner dialogue as you make choices. Your process will reveal interesting truths about yourself.

Instructions
1. Review the values on the assessment worksheet. At the bottom notice, there are a few blank lines. Use these lines to add any values that are important to you, but are not listed.
2. Put a star next to all of the value words that are very important to you, including any you may have added. This will become your personal set of values.
3. Narrow the list to your top eight values by crossing off less important ones or circling ones that are more important. Take two to three minutes to do this.
4. Now narrow the list to five, using the same process.
5. Now narrow the list to three.
6. Finally, choose your top two core values.

Core Value Exercise

<table>
<thead>
<tr>
<th>Peace</th>
<th>Integrity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wealth</td>
<td>Joy</td>
</tr>
<tr>
<td>Happiness</td>
<td>Love</td>
</tr>
<tr>
<td>Success</td>
<td>Recognition</td>
</tr>
<tr>
<td>Friendship</td>
<td>Family</td>
</tr>
<tr>
<td>Fame</td>
<td>Truth</td>
</tr>
<tr>
<td>Authenticity</td>
<td>Wisdom</td>
</tr>
<tr>
<td>Power</td>
<td>Status</td>
</tr>
<tr>
<td>Influence</td>
<td></td>
</tr>
<tr>
<td>Justice</td>
<td></td>
</tr>
</tbody>
</table>

Note: Your core values can help you make difficult decisions, choose particular lifestyle, select employment, raise a child—the possibilities are endless. They can even help you find common ground with someone you disagree with. The most important thing is that you integrate them into your life as much as you can, perhaps even co-teaching.

Next, share your core value with your co-partner. Discuss how you chose your values, what they mean to you, and how you express them. Then reflect on what more you can do to make your core values a part of your daily life and even the classroom.
I. Learning Resource:


II. Determining Co-Teacher Partner Norms Activity (Richardson, 1999)

<table>
<thead>
<tr>
<th>WHEN ESTABLISHING NORMS, CONSIDER:</th>
<th>PROPOSED NORM (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIME</strong></td>
<td></td>
</tr>
<tr>
<td>· When do we meet for co-planning/reflection?</td>
<td></td>
</tr>
<tr>
<td>· Will we set a beginning and ending time?</td>
<td></td>
</tr>
<tr>
<td>· Will we start and end on time?</td>
<td></td>
</tr>
<tr>
<td><strong>LISTENING</strong></td>
<td></td>
</tr>
<tr>
<td>· How will we encourage listening?</td>
<td></td>
</tr>
<tr>
<td>· How will we discourage interrupting?</td>
<td></td>
</tr>
<tr>
<td><strong>CONFIDENTIALITY</strong></td>
<td></td>
</tr>
<tr>
<td>· Will the meetings be open?</td>
<td></td>
</tr>
<tr>
<td>· Will what we say in the meeting be held in confidence?</td>
<td></td>
</tr>
<tr>
<td>· What can be said after the meeting?</td>
<td></td>
</tr>
<tr>
<td><strong>DECISION MAKING</strong></td>
<td></td>
</tr>
<tr>
<td>· How will we make decisions?</td>
<td></td>
</tr>
<tr>
<td>· How will we deal with conflicts?</td>
<td></td>
</tr>
<tr>
<td><strong>PARTICIPATION</strong></td>
<td></td>
</tr>
<tr>
<td>· How will we encourage participation?</td>
<td></td>
</tr>
<tr>
<td>· Will we have an attendance policy?</td>
<td></td>
</tr>
</tbody>
</table>
What is Co-Teaching?

1. One teacher—typically the general educator—acting as the main teacher with the special educator in the role of “helper.” **Agree or Disagree**

2. An equal partnership between two teachers—a general educator and a special educator—who have equivalent levels of professional licensure: **Agree or Disagree**

3. The special educator only working with the students with disabilities: **Agree or Disagree**

4. A way to have students with disabilities participate—and succeed—in the general education curriculum: **Agree or Disagree**

5. The general educator only working with the students without disabilities: **Agree or Disagree**

6. A tool for differentiating instruction for all students in the classroom, where both professionals are integral to the instructional process: **Agree or Disagree**

7. A way to decrease student-to-teacher ratios across learning needs, styles and ability levels: **Agree or Disagree**

8. Two teachers who take alternating turns teaching their students: **Agree or Disagree**

9. A way for teachers to learn from each other, and for students to gain knowledge from the expertise of two teachers both engaged in the instructional process: **Agree or Disagree**

10. Solely a way to help the students with disabilities: **Agree or Disagree**

11. Planned at the last minute or improvised: **Agree or Disagree**

12. Planned thoughtfully and collaboratively by both teachers: **Agree or Disagree**

13. A way to meet the requirements of IDEA and NCLB: **Agree or Disagree**
How the Knowledge-Base Defines Co-Teaching

Definition A: “Co-teaching may be defined as the partnering of a general education teacher and a special education teacher or another specialist for the purpose of jointly delivering instruction to a diverse group of students, including those with disabilities or other special needs, in a general education setting and in a way that flexibly and deliberately meets their learning needs (Friend, 2008).” (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 11)

Definition B: “Co-teaching is the pairing of a special education teacher and a general education teacher in an inclusive general education classroom for the purpose of providing high-level instruction to meet the diverse needs of a wide range of students…the inclusive classroom has students with and without legally classified disabilities. Co-teaching is not team teaching, the practice of two general education teachers combining their classes and teaching some or many lessons. Nor should co-teaching be confused with the practice of adding a paraprofessional to a general education teacher’s inclusive classroom.” (Wilson & Blednick, 2011, p. 6)

Definition C: “Co-teaching brings together a general education teacher and a special education teacher to share all aspects of teaching—planning, instruction and assessment—for an inclusive, heterogeneous group of students in a shared classroom environment.” (MSDE, 2014)—Maryland Department of Education

Co-teaching is:

- An equal partnership between two teachers—a general educator and a special educator—who have equivalent levels of professional licensure.
- Ways to have students with disabilities participate—and succeed—in the general education curriculum.
- A tool for differentiating instruction for all students in the classroom, where both professionals are integral to the instructional process.
- A way to promote the use of Universal Design for Learning (UDL) principles for all students.
- A way to decrease student-to-teacher ratios across learning needs, styles and ability levels.
- A way to promote professional collegiality and mutual support between teachers.
- A way for teachers to learn from each other, and for students to gain knowledge from the expertise of two teachers both engaged in the instructional process.
- Planned thoughtfully and collaboratively by both teachers.
- A way to meet the requirements of IDEA and NCLB.

Co-teaching is not:

- One teacher—typically the general educator—acting as the main teacher with the special educator in the role of “helper.”
- The special educator only working with the students with disabilities.
- The general educator only working with the students without disabilities.
- Two teachers who take alternating turn teaching their students.
- Solely a way to help the students with disabilities.
- Planned at the last minute or improvised.
Sharing Hopes, Attitudes, Responsibilities, and Expectations (S.H.A.R.E.)
Adapted from (Murawski & Dieker, 2004)

Directions: Take a few minutes to individually complete this worksheet. Be honest in your responses. After completing it individually, share the responses with your co-teaching partner by taking turns reading the responses. Do not use this time to comment on your partner's responses—merely read. After reading through the responses, take a moment or two to jot down any thoughts you have regarding what your partner has said. Then, come back together and begin to share reactions to the responses. Your goal is to (a) Agree, (b) Compromise, or (c) Agree to Disagree.

1. Right now, the main hope I have for co-teaching __________:
2. My attitude/philosophy regarding teaching __________ to students with disabilities in a general education classroom is:
3. What is your co-teaching definition?
4. What is your definition of what is not co-teaching?
5. What are your co-teacher goals for co-taught __________?
6. I would like to have the following responsibilities for __________:
7. I would like my fellow co-teacher to have the following responsibilities:
8. The biggest obstacle I expect to have in co-teaching __________ is:
9. I think my co-teacher partner and I can overcome this obstacle by:
10. I have the following expectations in the classroom:
   - regarding discipline
   - regarding classwork
   - regarding materials
   - regarding homework
   - regarding planning
   - regarding modifications for individual students
   - regarding grading
   - regarding noise level
   - regarding cooperative learning
   - regarding giving/receiving feedback
   - regarding parental contact
   - other important expectations I have
### Co-Teaching Variations

<table>
<thead>
<tr>
<th>Variation</th>
<th>Description</th>
<th>Planning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Teaching, One Observing (Whole group)</td>
<td>Teachers alternate roles of teaching lessons and observing students for an understanding of academic and social functioning.</td>
<td>Low</td>
<td>A general educator teaches a whole-group lesson on writing complete sentences. The specialist collects data related to a single student or small groups of students. The data are used to compare targeted student behavior to the behavior of others during the lesson being taught. In future lessons, teachers may reverse roles when specific behaviors need to be observed.</td>
</tr>
<tr>
<td>One Teaching, One Assisting (Whole group)</td>
<td>Teachers alternate roles of teaching and supporting the instructional process.</td>
<td>Low</td>
<td>A general educator teaches a whole-group lesson on the causes of the Civil War. The specialist walks around the classroom to assist students by answering individual questions or to redirect students who are not following the instruction. In future lessons, teachers may reverse roles.</td>
</tr>
<tr>
<td>Station Teaching (Small group)</td>
<td>Small groups of students rotate to various stations for instruction, review, and/or practice.</td>
<td>Medium</td>
<td>A specialist works with a small group of students on prewriting, while other students are working with the general educator on research skills. Another group is using the classroom computer to research a topic. Over the course of the week, all students work at each task/station.</td>
</tr>
<tr>
<td>Parallel Teaching (Small group)</td>
<td>Students are divided into mixed-ability groups, and each co-teaching partner teaches the same material to one of the groups.</td>
<td>Medium</td>
<td>The class is divided in half, and each teacher works with a group on creating a timeline of important events in history. At the end of the session, each group shares its timeline and reviews important concepts.</td>
</tr>
<tr>
<td>Teaming or Interactive Teaching (Whole group)</td>
<td>Teachers alternate the roles of presenting, reviewing, and monitoring instruction.</td>
<td>High</td>
<td>Co-teachers teach a whole-group lesson on fractions. The specialist introduces the concept and provides initial instruction. The general educator directs the guided practice and evaluation. In future lessons, the partners may reverse roles.</td>
</tr>
<tr>
<td>Alternative Teaching (Big group/ small group)</td>
<td>One person teaches, reteaches, or enriches a concept for a small group, while the other monitors or teaches the remaining class members.</td>
<td>High</td>
<td>The specialist works with a small group of students on an enrichment project, while the general educator teaches the remainder of the students.</td>
</tr>
</tbody>
</table>
### Appendix G: Co-Teacher Responsibilities
Adapted from (Beninghof, 2012; Villa, Thousand, & Nevin, 2004)

**Directions:** Discuss the following statements with your partner and reach a conclusion in each case. Use the following key code to indicate your co-partner conclusion: **P**= Primary Responsibility; **S**=Secondary Responsibility, **E**=Equal Responsibility; **I**=Input into Decision Making

<table>
<thead>
<tr>
<th>Co-Teacher Responsibilities</th>
<th>Team</th>
<th>Team</th>
<th>Equal Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify goals and objectives for the course.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Design IEP objectives for special education students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Plan instructional activities to achieve the goals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Select and organize instructional materials.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Teach specific course-content.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Teach study skills and learning strategies.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Collect data on student performance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Establish and implement grading procedures.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Establish and implement a classroom management plan.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Maintain parent/guardian contact.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Modifying curriculum and materials, as necessary.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Design tests, homework assignments, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Provide individual assistance to students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Take care of daily routines (e.g. attendance).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Direct paraeducators and or other support persons.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Communicate to all appropriate parties (e.g. administrators, case managers, counselors) regarding special education students.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix H: English Team Field Notes—IMPACT Planning Protocol

<table>
<thead>
<tr>
<th>Reflect on teacher and student performance (20% of time)</th>
<th>Student 1, Student 2, Student 3, Student 4, (Student 5/Student 6 abs, Student 7 left) Student 8, Student 9, Student 10, Student 11 Concerns around factoring and completing the square. Did not check in with Student 2 TEST correction. Concerns about Student 3’s engagement and too much support outside of class. Student 4 is awesome, but he needs to say it. Student 5 and Student 2 sitting closer together.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-Plan the Lesson (60% of time)</td>
<td><strong>Friday</strong> Content/Learning Objective: Students will be able (determine the best way to) distinguish the various ways to factor (<em>please clean this up</em>) Stations to review the homework. Parallel—3 Stations (10 minutes per Station) <em>Break and Stretch</em> Supportive—Whole Group (Warm-Up Activity) Homework 4 Problems &amp; Learn about i <strong>Tuesday:</strong> Parallel—Supplementary Instruction—Student 3 (Teacher D^) (50 min.), Student 2/Student 7 (Sam) &amp; Rest of the Class (Student 5) <strong>Wednesday:</strong> Assessment Take Student 5 out of the classroom (Teacher C); Teacher D^ will remain with the class. We need to find a room for Student 5.</td>
</tr>
<tr>
<td>Assign Responsibilities (20% of time)</td>
<td><strong>Teacher C</strong> Make a practice test for second half of Friday. Get a “warm-up” problem. Be ready to teach i. Make test. Make test for Student 1.</td>
</tr>
<tr>
<td>• What worked well? • What are areas of concern?</td>
<td><strong>Co-Plan the Lesson (60% of time)</strong> • Discuss the big picture challenges • Discuss the practices/content • Plan content delivery • Consider variations of co-teaching • Design practice activities • Plan assessment strategies (group, individual, modified)</td>
</tr>
</tbody>
</table>
## Appendix I: Math Team Field Notes—IMPACT Planning Protocol

<table>
<thead>
<tr>
<th>Reflect on teacher and student performance (20% of time)</th>
<th>Well - Gave kids good work time. Maybe less individual time on the second day. Great discussion throughout the week. Ben good share. Concern - Student A, Student B, still concrete - only talked about one event. Probably others</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What worked well?</td>
<td></td>
</tr>
<tr>
<td>• What are areas of concern?</td>
<td></td>
</tr>
<tr>
<td>Co-Plan the Lesson (60% of time)</td>
<td>BIG PICTURE - finishing book and revising editing final TWO pieces. Theme, conflict, literary analysis and which mode of writing. Review vignette, group act out, parallel - station</td>
</tr>
<tr>
<td>• Discuss the big picture challenges</td>
<td>Monday -</td>
</tr>
<tr>
<td>• Discuss the practices/content</td>
<td>Tasks -</td>
</tr>
<tr>
<td>• Plan content delivery</td>
<td>• review components - pink sheet, and green sheet (rubric) Use Linoleum Roses</td>
</tr>
<tr>
<td>• Consider variations of co-teaching</td>
<td>• read five vignettes - no English - Bums</td>
</tr>
<tr>
<td>• Design practice activities</td>
<td>• group pick one vignette - show tableau - meaning of vignette</td>
</tr>
<tr>
<td>• Plan assessment strategies (group, individual, modified)</td>
<td>• remind - bring draft of personal vignette; and time for revise essay and poem</td>
</tr>
<tr>
<td></td>
<td>WEDNESDAY</td>
</tr>
<tr>
<td></td>
<td>• WODs 10 min</td>
</tr>
<tr>
<td></td>
<td>• Stations - one - vignette, two - revision essay and poem, three - ind. reading vignettes (Beautiful - Garden) - 45min</td>
</tr>
<tr>
<td></td>
<td>• One sentence summary, literary elements, themes, conflicts of each of 4 or 5 vignettes</td>
</tr>
<tr>
<td></td>
<td>• Share out</td>
</tr>
<tr>
<td></td>
<td>• Chose two pieces for final draft/grade - remind no work time</td>
</tr>
<tr>
<td></td>
<td>THURSDAY</td>
</tr>
<tr>
<td></td>
<td>-WODs - 10 min</td>
</tr>
<tr>
<td></td>
<td>-read rest of vignettes</td>
</tr>
<tr>
<td></td>
<td>-in groups read rest -</td>
</tr>
<tr>
<td></td>
<td>• make choice of conflict, lit. element, theme - ind. in groups – Teacher D^ MAKE SHEET</td>
</tr>
<tr>
<td></td>
<td>• then shift to three stations - Jigsaw - conflict - one sentence, theme - greater meaning, lit elements.</td>
</tr>
<tr>
<td></td>
<td>-Read last vignette as group -</td>
</tr>
<tr>
<td></td>
<td>-WRAP UP COMMENTARY ON HOUSE ON MANGO STREET- Exit ticket - ONE quality of each, One quality they all have in common – Teacher D^ Make</td>
</tr>
<tr>
<td></td>
<td>-Lesson Before Dying Teacher A MAKE READING GUIDE</td>
</tr>
<tr>
<td>Assign Responsibilities (20% of time)</td>
<td>Teacher D^ does conflict, lit elem, theme sheet and ticket out</td>
</tr>
<tr>
<td>• Identify needed materials</td>
<td></td>
</tr>
<tr>
<td>• Clarify teaching roles and responsibilities</td>
<td></td>
</tr>
<tr>
<td>• Write out responsibilities for all involved</td>
<td></td>
</tr>
</tbody>
</table>
Appendix J: Closing Conversation—Final Session

Team’s Closing Questions/Report Out

Teacher Names______________________________

Co-Teacher Assignment___________________________

Presentation Mode: Conversation, PPT or Google Slideshow Presentation

1. What are some key steps that co-teacher teams need to take to strengthen their co-teaching relationships? What tools do you suggest teams use or revisit? (i.e., norms, responsibilities discussion)

2. What are the essential steps co-teacher teams should take to maximize their planning sessions? (i.e. frequency, tools or protocols)

3. What steps should teams take to maximize their co-teaching approaches? How do you suggest a co-teaching team should decide on which co-teaching approach to use? (i.e., partner readiness, students' needs)

4. Do you have an effective co-teaching lesson plan you would like to share? How did you know this lesson was effective?

5. What “Co-Teaching Words of Wisdom” do you have for other co-teacher teams?