

The Effectiveness of the Co-Teaching Model Literature Review

In this report, Hanover Research provides an overview of the literature surrounding co-teaching as a mode of instruction for children with and without disabilities. We discuss best practices in the implementation of co-teaching as well as research on its effectiveness.

Introduction and Key Findings

Over the past several decades, the mode of instructional delivery for special needs students has changed substantially in response to federal policies. The Education for All Handicapped Children Act of 1975, for instance, mandated that students receive education in the least restrictive environment (LRE). Later, the 1990 Individuals with Disabilities Act (IDEA)—enhanced through amendments several years later, in 1997—encouraged the placement of students with disabilities in general classroom settings.¹ Since then, the philosophy of “inclusion” has been adopted by districts across the nation.

Most recently, the No Child Left Behind Act has placed pressure on educators to ensure that *all* students, including those with disabilities and other special needs, meet

Over the past several decades, the philosophy of ‘inclusion’ has significantly altered the instructional landscape for disabled children.

set benchmarks measured by standardized assessments. As a result, recent years have seen a growing emphasis on teaching all learners in inclusive, general education settings, a model that may be achieved through various strategies. Among these strategies is co-teaching, which over the

past decade has surfaced as a topic of discussion in schools throughout the country.^{2,3}

Broadly, co-teaching may be defined as a mode of instruction in which two or more educators or other certified staff members share responsibility for a group of students in a single classroom or workspace. **Co-teaching is not necessarily collaborative, nor is it synonymous with traditional team teaching,** which generally does not alter the student-teacher ratio and does not blend multiple approaches to teaching.⁴ By contrast, “co-teaching draws on the strengths of both the general educator, who understands the structure, content, and pacing of the general education curriculum, and the special educator, who can identify unique learning needs of individual students and enhance curriculum and instruction to match these needs.”⁵ Researchers

¹ Marawski, Wendy Weichel, and H. Lee Swanson. “A Meta-Analysis of Co-Teaching Research: Where Are the Data?” *Remedial and Special Education*, 27(5), September–October 2004, p. 4.

<http://www.teachforamerica.org/marawski%20swanson%202004.pdf>

² Cook, Lynn. “Co-Teaching: Principles, Practices, and Pitfalls.” New Mexico Public Education Department Quarterly Special Education Meeting, 29 April 2004, p. 2.

<http://www.eced.gov.nm.gov/ED486454.pdf>

³ Doherty, Lisa A., Wendy W. Marawski. “Co-teaching at the Secondary Level: Unique Issues, Current Trends, and Suggestions for Success.” *The High School Journal*, 86(4), April–May 2003.

<http://search.proquest.com/docview/20070687-43494-2D481D4D850610-8>

Cook, Lynn, pp. 5–6.

⁴ Zimand, Naomi and Katherine Maglen. “Current Practice: A Case Study of Co-Teaching.” Council for Exceptional Children Division for Learning Disabilities and Division for Research, Issue 6, 2004, p. 2.

http://s3.amazonaws.com/era-training-13/assets/13_uploaded_files/original_Avcompd1310100419

note that the basic requirements of co-teaching are parity between the co-educators, a heterogeneous group of students, and the use of a variety of instructional models.⁶

Although it may be implemented at any grade level, co-teaching is most common in elementary and middle schools.⁷ However, many students with disabilities have especial difficulty in middle and high school, often the result of miscommunication between educators, an increase in the difficulty of assignments, or the challenges of meeting diverse learning needs in an environment focused on content mastery.⁸ **Teachers may also struggle to meet the academic needs of special education students at the secondary level.** The 1997 IDEA Amendments mandated that students with disabilities receive the same content knowledge as their peers, a challenging task at the secondary level, when content areas become increasingly specified and require greater depth of mastery.⁹ Because special educators cannot be masters of *all* content areas, researchers note, “collaboration with general education is essential.”¹⁰ Co-teaching thus functions as a means of facilitating such collaboration.

It is important to note, however, that co-teaching at the high school level poses several unique challenges, attributable to “the emphasis on content area knowledge, the need for independent study skills, the faster pacing of instruction, high stakes testing, high school competency exams, less positive attitudes of teachers, and the inconsistent success of strategies that [are] effective at the elementary level.”¹¹ Nonetheless, recent research suggests that co-teaching—while not the *most* prevalent form of support for disabled students—has become increasingly popular at various grade levels.¹²

Due in part to its relatively recent emergence, **empirical research on the effectiveness of co-teaching**—in terms of quantitatively-measured student outcomes—is **limited**. Indeed, very few large-scale studies on co-teaching have been conducted to date, and smaller-scale studies have yielded mixed results. As a result, districts may face a number of challenges in considering the implementation of a co-teaching model.

⁶ Dicker and Marawski. Op. cit.

⁷ Zyzanski and Mapern. Op. cit., p. 2.

⁸ Marawski, Wendy W. and Lisa A. Dicker, “Tops and Strategies for Co-Teaching at the Secondary Level,” *Teaching Exceptional Children*, 36(5).

http://jsep.sagepub.com/publib/html/article.php?story=Co_Teaching_Tops

⁹ Dicker, Lisa, “What Are the Characteristics of ‘Effective’ Middle and High School Co-Teach Teams for Students with Disabilities?” *Parenting School Culture*, 46(1), 2001.

<http://search.proquest.com/docview/228547387-434944A9-7600-4164-75>

¹⁰ *Ibid.*

¹¹ Keete, Elizabeth B. and Veronica Moore, “The Challenge of Co-Teaching in Inclusive Classrooms at the High School Level: What the Teachers Told Us,” *American Secondary Education*, 32(3), 2004.

<http://search.proquest.com/docview/195487182-4349442B-81D1-0B50-00-1>

¹² Kuzovki, Priscilla, Lisa Charney, Lynn Anne J. Ruedin, “Inclusion Classrooms and Teachers: A Survey of Current Practices,” *International Journal of Special Education*, 7(5), 2010, 16-21.

<http://www.eric.ed.gov/Fulltext/1000055.pdf>

Report Contents

Our report is comprised of two main sections and two appendices:

- ❖ **Section I** provides an overview of the general theoretical framework of co-teaching, along with exemplary practices identified in the literature.
- ❖ **Section II** discusses research on the effectiveness of co-teaching as an instructional strategy. Several meta-analyses of relevant studies are discussed, and challenges related to co-teaching implementation are identified.
- ❖ **Appendices I and II** provide information on specific collaborative co-teaching strategies, as well as rubrics for measuring cooperative efficacy among co-teachers.

Key Findings

- ❖ The inclusiveness of co-teaching extends to instructors as well as to students. Typically, both instructors in a co-teaching arrangement have equivalent licensure or status, and both can participate *fully* in the instructional process. In other words, the special education teacher is not solely responsible for the students in the class that have special needs, nor is the general education teacher responsible for presenting content exclusively to the rest of the class..
- ❖ Researchers have identified at least six types of co-teaching structures, which may be implemented exclusively or in combination:
 - **One Teach, One Observe:** One teacher observes specific student characteristics while the other teaches.
 - **One Teach, One Drift:** One teacher presents material to the class, while another circulates and provides unobtrusive assistance.
 - **Parallel Teaching:** Teachers present material simultaneously, dividing the class into two groups.
 - **Station Teaching:** Teachers divide content and split class into two groups. Each teacher instructs one group, and then the other.
 - **Alternative Teaching:** One teacher instructs a large group, while another works with a smaller group needing specialized attention.
 - **Team Teaching:** Both teachers work together to deliver content to the entire class at the same time.

- ❖ There are three central stages in effective co-teaching: the planning stage, the instructional stage, and the assessment stage. Co-teachers must consider each component in course design and delivery. For instance, instructors must work together to coordinate scheduling and collaborate on instructional issues such as content, lesson timing, and grading procedures. Similarly, administrators must work to provide sufficient support for co-teachers—for instance, by allotting periods each day for co-teachers to work on course planning.
- ❖ Some schools, recognizing that special education teachers cannot be experts in *every* content area, have implemented models that allow special education teachers to “specialize” to a limited degree. In a “family model,” for example, classes are clustered according to content, and individual special education teachers work within the “cluster” most closely aligned with their expertise.
- ❖ To date, research into the effectiveness of co-teaching has been limited and yielded mixed results. The majority of studies on co-teaching appear to focus on student and teacher perceptions of effectiveness, as well as the emotional impact of a cooperative instructional strategy. Hanover identified two large-scale meta-analyses relevant to the current inquiry, both of which indicate that while co-teaching has shown promise in some cases, findings are not readily generalizable. As a result, administrators should carefully consider district objectives and specific student needs when addressing the implementation of a co-teaching model.

Section I: Overview of Co-Teaching Theories and Practices

Instructional Strategies and Best Practices

Researchers have highlighted various benefits of co-teaching as an instructional strategy. According to the New Mexico Department of Education, for instance, co-teaching has the potential to:¹³

- ❖ Further a philosophy of inclusion by reducing the stigma (as well as increasing understanding and respect) of students with special needs and creating a heterogeneous classroom community;
- ❖ Improve instruction for all students of all abilities;
- ❖ Reduce the instructional fragmentation students with special needs might experience if they were removed from the classroom, and ensure that their instructor/s know the general curriculum being addressed in the classroom; and
- ❖ Foster a sense of support among teachers.

Several characteristics of co-teaching distinguish it from other types of instructional partnerships. First, the **two teachers delivering content to the class have equivalent licensure or status and participate fully in the instructional process.** In other words, both teachers work with *all* students.¹⁴ The special education teacher is not solely responsible for the students in the class that have special needs, nor is the general education teacher responsible for presenting content exclusively to the rest of the class. In order to achieve this system of organization, co-teachers must clearly define their classroom roles and responsibilities and provide support to individual students so that the instructional flow of the whole class is maintained. The curriculum of the class should reflect the needs of all students—academic, developmental, compensatory, and life skills.¹⁵

There are a number of factors that teachers developing a co-taught course should consider, namely:¹⁶

- ❖ Student characteristics and needs
- ❖ Teacher characteristics and needs
- ❖ Curriculum, including content and instructional strategies
- ❖ Pragmatic considerations

¹³ Goble, O'Connell, et al.

¹⁴ Friend, Muijen, and De Arce. *Handy Guide for "Is Co-Teaching Effective?"* Council for Exceptional Children. <http://www.cec.sped.org/AM/Template.cfm?Section=Home&ID=MPLE/VIDE/COM/ContentDisplay.cfm&CID=117&CID2=75018>

¹⁵ Goble, O'Connell, et al.

¹⁶ Ibid., p. 14.

These aspects of co-teaching may be most effectively illustrated in the context of specific instructional approaches. Figure 1.1 lists several key co-teaching structures, along with a description of each and the circumstances under which each is most appropriate.

Figure 1.1: Co-Teaching Structures¹⁷

Co-Teaching Method	Description	When to Use	Level of Planning Required
One Teach, One Observe	One teacher observes specific characteristics while the other teaches. After the class session, both teachers analyze the information together.	<ul style="list-style-type: none"> ❖ In new co-teaching situations ❖ When questions arise about students ❖ To monitor student progress ❖ To compare target students to others in class 	Low
One Teach, One Drift	One teacher presents material to the class while another circulates through the room and provides unobtrusive assistance to students.	<ul style="list-style-type: none"> ❖ When the lesson lends itself to delivery by one teacher ❖ When one teacher has particular expertise for the lesson ❖ In new co-teaching situations ❖ In lessons emphasizing a process in which student work needs close monitoring 	Low
Parallel Teaching	Two teachers present material to the class simultaneously by dividing the class group.	<ul style="list-style-type: none"> ❖ When a lower teacher-student ratio is needed to improve instructional efficiency ❖ To foster student participation in discussions ❖ For activities such as drill and practice, re-teaching and test review 	Medium
Station Teaching	Teachers divide class group and content, and teach one group first, then the other.	<ul style="list-style-type: none"> ❖ When content is complex but not hierarchical ❖ In lessons in which part of planned instruction is review ❖ When several topics comprise instruction 	Medium
Alternative Teaching	One teacher instructs the larger group while another works with a smaller group needing more specialized attention.	<ul style="list-style-type: none"> ❖ When students' mastery of concepts taught or about to be taught varies tremendously ❖ When extremely high levels of mastery are expected for all students ❖ When enrichment is desired ❖ When some students are working in a parallel curriculum 	High

¹⁷ G. Gage, p. 16.

Co-Teaching Method	Description	When to Use	Level of Planning Required
Team Teaching	Both teachers work together to deliver content to the class at the same time.	<ul style="list-style-type: none"> ❖ When teacher experience is comparable ❖ During a lesson in which instructional conversation is appropriate ❖ In situations in which the teachers have considerable experience and a high sense of comfort ❖ When a goal of instruction is to demonstrate some type of interaction to students 	High

Source: Cook, Lynne. (2004). "Co-Teaching: Principles, Practices, and Pragmatics."

The methods listed in Figure 1.1 may be implemented independently or in combination. One study of exemplary co-teaching arrangements, for example, found that a pair of co-teachers faced with specific behavioral challenges alternately used parallel teaching, alternative teaching, station teaching, and team teaching.¹⁸ According to a 2007 meta-analysis of co-teaching studies, however, the most prevalent form of co-teaching overall is 'one teach, one drift.'¹⁹

A 2005 study conducted by Kathleen Magiera and several other researchers found that in secondary math courses, team teaching specifically is rare. The special education teacher is very rarely the primary instructor in co-taught mathematics classes, serving instead as a support for the general education teacher during instruction. The study found that in such classes, **the most common role played by both teachers is that of monitoring student work, either by reviewing homework or observing students solving problems independently.**²⁰ In a mathematics class, the same study stated, "the role of the special education teacher ... is not to become a quasi-mathematics teacher (there is one already in the classroom) but to explicitly teach processes that help students with disabilities understand mathematical concepts."²¹

¹⁸ Dieker, Op. cit.

¹⁹ Striggus, Thomas E., Mario A. Mastropieri, Kimberly A. McDerby. "Co-Teaching in Inclusive Classrooms: A Meta-analysis of Qualitative Research." *Exceptional Children*, 74(1), 2007. <http://search.proquest.com/docview/261061061/124914316/680164E-4E604161-4E604161-4E604161>

²⁰ Magiera, Kathleen, Cynthia Smith, Naomi Zippend, and KCF Vickhamer. "Benefits of Co-Teaching in Secondary Mathematics Classes." *Teaching Exceptional Children*, 37(3), 2005.

<http://search.proquest.com/docview/261061062/124914316/680164E-4E604161-4E604161-4E604161>

²¹ Ibid.

Facilitating Effective Collaboration

Despite the challenges inherent to some content areas (such as mathematics), it is nonetheless important that co-teachers learn to work effectively together. This collaboration may prove particularly challenging at the secondary level, as classroom environments are usually subject-specific and teachers are more “territorial” and accustomed to leading a class alone.²² One way for co-teachers to achieve successful instruction *together* is to plan around the three major components of co-teaching, namely: cooperating in the planning stage, the instruction of students, and the assessment phase.²³ Each of these components is discussed in further detail in the paragraphs that follow.

Planning is, in essence, a means of determining which standards will be addressed in a course and how to ensure that all students meet those standards. If possible, **co-teachers should set aside a period for planning once or twice a week.** They may choose to meet once for a longer period (e.g., 90 minutes) to plan one or two weeks’ worth of material, or they may choose to meet for shorter periods. On average, one lesson can be planned by secondary co-teachers in 10 minutes or fewer.²⁴ One study

During planning sessions, co-teachers should exchange their knowledge of the curriculum and students.

found that co-teachers reported desiring, on average, approximately 15 minutes to an hour each day for planning.²⁵

During planning sessions, co-teachers should exchange their knowledge of the curriculum and students. Typically, the general education teacher shares information about content, curriculum and standards, while the special education teacher shares information about IFPs and individual student goals and plans.²⁶ **Even in a specialized content class, both teachers should take the lead on planning** on occasion. This ensures that the general education teacher does not carry the entire load of course design and development.²⁷

There are several strategies to ensure that instruction in a co-taught setting flows smoothly. Teachers should discuss their approaches to teaching and learning with one another to determine how they can work complementarily. Additionally, teachers may design a **silent communication framework** so that they are able to signal to each other when it is time to move on with a lesson or spend more time on a given topic.

²² Murawski and Dickey, *Op. cit.*

²³ *Ibid.*

²⁴ *Ibid.*

²⁵ Dickey, *Op. cit.*

²⁶ Murawski and Dickey, *Op. cit.*

²⁷ *Ibid.*

Short breaks throughout the lesson may also provide teachers with an opportunity to discuss their progress.²⁸

A key instructional benefit of co-teaching is that it is easier to vary instructional practices, which increases flexibility and creativity during lessons. Still, however, researchers note that it is often effective to post a structured agenda for each class, so that teachers and students alike can focus on lesson objectives (including, if appropriate, “soft skills,” such as social or study skills).²⁹ Appendix 1 contains a list of suggested strategies that co-teachers may use to effectively divide instructional work during class time.

Finally, co-teachers must collaborate on assessment procedures. Grading should be discussed by both teachers, in order to ensure common expectations for individual students (thus avoiding conflict when it comes time to assign grades). Various kinds of assessments may be useful to reflect the different capabilities of individual students; teachers may choose, for instance, to allow students to self-select projects or papers from menus of assignments to ensure the highest chance of success. Ideally, grading of assignments should be divided between the two teachers, who may choose to grade the same assignment at first to compare and discuss their judgments.³⁰

Training and Assessment

Co-teachers are also advised to **assess their own performance as an instructional team**. The Council for Exceptional Children (CEC) has developed a tool—the Co-Teaching Rating Scale (CtRS)—to help co-teachers measure their combined effectiveness. This tool is reproduced in full in Appendix 2. In addition to the measures listed in the CtRS, recognition of a co-taught course by parents and students also indicates that instructors are leading their class effectively. Teachers should inform all parents of students in a co-taught class that their children are in a multiple-instructor learning environment.³¹ There are many ways to effectively emphasize to parents that a course is truly co-taught. For example, both teachers’ names might appear on student report cards, or student assignments may undergo review by both teachers.³²

As co-teaching requires not just instructional skills but also interpersonal skills, **training for co-teachers is also especially significant**. Both pre-service training

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ See Carol Mundy Hersh and Robert Duran, “Examining Instructional Practices for Students with Mild Disabilities,” *The Educational Collaborative*, 2010, p. 8.

³² http://www.thecouncilforexceptionalchildren.org/resources/files/article_view_4_081_3

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and professional development training may serve to meet training needs.³³ Researchers note that the most effective means of pre-service training is to incorporate co-teaching instruction into general teacher education programs. Professional development may take the form of a mentorship program, school-based consultants, and/or problem solving teams. Training for administrators is also recommended, as the success of co-teaching in a school depends largely on effective administrative support.³⁴

Organized Implementation

Student placement is a central concern when designing a co-teaching model. The Council for Exceptional Children notes that **no more than one third of the class should be students with IEPs**; the rest should be a mix of high-achieving, average achieving, and low-achieving students.

Comprehensive administrative support, coupled with a strong organizational structure, is essential to ensure effective co-teaching.

This balance ensures that the presence of two teachers (one of them likely a special education teacher) is justified, and that students without disabilities are benefitting from the arrangement—which may not be the case if the proportion of disabled students is much higher.³⁵

Large-scale coordination within a school that has implemented co-teaching is equally significant. In light of the fact that special education teachers cannot be experts in every content area, some schools have adopted a “family model.” In such a model, classes with similar content are clustered together, and individual special education teachers work within these clusters. Similarly, schools may elect to have special education departments divide their instructors by area of expertise, so that one special educator serves all students with disabilities within a specific content area. This is only possible, however, when there are enough special education teachers to cover multiple content areas.³⁶

Several other general best practices have been identified as supporting the coordinated implementation of co-teaching. First, it is crucial that children learn in a positive climate, in which all students are recognized as participating members of the class. This can be achieved through peer supports, such as peer tutoring or cooperative learning; the positive treatment of students by teachers; and the presence of a continuum of special education services. Second, co-teaching must be viewed in a positive light by all participating members. Finally, maintaining high expectations of all students, regardless of ability or special need, has also been shown to help improve

³³ Nye, Berliner, and Duncan, *Opener*, p. 10.

³⁴ *Opener*, p. 9.

³⁵ Zenger and Magnet, *Opener*, p. 3.

³⁶ Diesel and Mossler, *Opener*.

student performance.³⁷ Indeed, the U.S. Department of Education's Office of Special Education Programs has produced a manual on accommodations, in which it makes clear that students with disabilities should be expected to achieve grade level academic content standards.³⁸

It may additionally be advisable for co-teachers and/or their schools to report relevant successes in co-teaching to parents and the public. This creates interest in, and support for, co-teaching as an instructional method.³⁹ Districts may consider providing "teaching team of the year" or similar awards to recognize exemplary practices among the teaching staff.⁴⁰

³⁷ Dicker, Op. cit.

³⁸ H. B. Sharon, "NCLB and IDEA: Optimizing Success for Students with Disabilities," *Perspectives on Language and Literacy*, 53(4), 2007.
<http://search.proquest.com/socialsciences/docview/209216-18/43494-041D4-88D0936-1>

³⁹ Scay, H. S. and Duran, Op. cit., p. 8.

⁴⁰ Ginn, Elizabeth, Andrea Lison, Van Noy, and Leopoldo, Howard, "Co-Teaching in Urban Secondary Schools: Districts to Meet the Needs of All Teachers and Learners: Implications for Teacher Education Reform," *International Journal of Whole Schools*, 6(2), 2010, p. 11.
<http://www.eric.ed.gov/FullText/EJ959125.pdf>

Section II: Effectiveness of Co-Teaching

To date, research on the effectiveness of co-teaching as a mode of instruction (for children with or without disabilities) has been scant, and has yielded mixed results. Overall, there is a general lack of quantitative data on co-teaching; studies have tended to focus on the *emotional* (as opposed to academic) benefits of the method, or on perceptions of effectiveness. Such studies indicate that **students generally have a positive response to co-teaching, while teachers' opinions tend to be mixed.** Some teachers may be unsure of the feasibility and practicality of co-teaching, or may question its appropriateness for some students.⁴¹ Research has additionally found that parents and administrators, like teachers, are not consistently in favor of inclusion in general as a model for educating students with disabilities. Some administrators are unconvinced of the benefits of inclusion, while parents are skeptical of the benefits such a strategy offers for children.⁴²

“While there are many resources available to tell practitioners how to [co-teach], there are virtually no convincing data that tell the practitioner that it is worth doing.”

This skepticism is justified, considering the substantial knowledge gaps associated with co-teaching as an instructional strategy. However, the general lack of empirical data appears largely due to the fact that **co-teaching is not conducive to large-scale, standardized research.** Not only do definitions of co-teaching vary across the literature, but classes are also typically not similar enough to provide meaningful comparative data.⁴³ For instance, the implementation of co-teaching—including the roles and responsibilities of co-teachers and the mode and quality of instruction—may differ not only among districts, but even among individual classrooms in a single school.⁴⁴

Several researchers have attempted to perform meta-analyses of studies on co-teaching. One of these, conducted in 2001 by the Council for Exceptional Children (CEC), identified four studies “in which the effectiveness of co-teaching was measured empirically and compared statistically with a control condition.”⁴⁵ Three of these studies took place in elementary schools and showed co-teaching to be as effective—but not *more* effective—than resource room instruction or consultation with the general education teacher. One study examined co-teaching in a high school setting, and found a decline in student performance. Based on the results of these studies, the CEC report advised educators to exercise caution when implementing co-

⁴¹ Fuchs and Harley, *Co-teaching*, Open on
⁴² Kay, Blumenthal, and Duran, *Open*, p. 4
⁴³ Zigmond and Major, *Open*, p. 3
⁴⁴ Fuchs, p. 2
⁴⁵ Fuchs, p. 4.

teaching methods, noting that “while there are many resources available to tell practitioners how to do it, there are virtually no convincing data that tell the practitioner that it is worth doing.”⁴⁶

A similar 2001 report, published by researchers Wendy Murawski and H. Lee Swanson in *Remedial and Special Education*, also examined data-based studies on the effectiveness of co-teaching. The report found that only six of 89 reviewed articles “provided sufficient quantitative information for an effect size to be calculated.”⁴⁷ All six studies took place in public schools over the course of one year, except for one, which lasted only three weeks.⁴⁸ Each class under examination was led by a general education teacher, a part-time teaching assistant (for four hours a day), and a special education teacher (for one to two hours a day). Special education students were primarily students with learning disabilities and/or low achievement.⁴⁹ The studies encompassed all grade levels: one examined grades K-3, two examined grades 3-6, and three examined grades 9-12.⁵⁰

In addition to quantifying general student outcomes across the six studies, Murawski and Swanson sought to explore two key questions:⁵¹

1. Does the magnitude of co-teaching outcomes vary as a function of grade, gender, length of study, or severity or type of disability?
2. Do studies that produce the largest effect size vary from other studies as a function of the type of dependent measure of focus (e.g., grades, social outcomes, achievement)?

The results of Murawski and Swanson’s meta-analysis were varied. They calculated mean effect sizes in a number of categories to better understand the impact of co-teaching as compared to a control group. The study found that the mean effect size for reading and language arts achievement was highest, while mathematics achievement exhibited only a moderate effect. There was a small-to-moderate effect size for grades, but social outcomes (peer acceptance, friendship quality, self-concept, etc.) and attitudinal outcomes showed low effect sizes. The average effect size for all studies in the analysis was moderate (0.4), which suggested that “**co-teaching is a moderately effective procedure for influencing student outcomes.**”⁵² However, Murawski and Swanson cautioned that, for several reasons, conclusions should not be generalized without careful consideration. For instance, not all of the studies

⁴⁶ Ibid.

⁴⁷ Murawski and Swanson, 309-312, 311.

⁴⁸ Ibid., 311.

⁴⁹ Ibid., 315.

⁵⁰ Ibid., 316.

⁵¹ Murawski and Swanson, 311.

⁵² Ibid., 311.

examined by Murawski and Swanson included a control group for students with disabilities (e.g., comparison against a pull-out group).⁵³

Despite a lack of hard data, anecdotal evidence suggests that co-teaching is an effective and positive mode of instruction.⁵⁴ Sources cite multiple benefits for students with and without disabilities. According to researchers Elizabeth Keefe and Veronica Moore, for instance:⁵⁵

Benefits for students with disabilities includ[e] **elimination of the stigma of being in special education**. Benefits for students without disabilities include[e] receiving individualized help and modifications through the collaboration between the special and general education teachers.

Given that scientifically robust research on co-teaching is still in its incipient stage, awareness of the challenges that co-teachers face may help to improve implementation. Research suggests that one of the greatest issues faced by co-teachers has to do with content, or the nature and depth of the material delivered to students. Special education teachers at the secondary level tend to be trained in learning differences and accommodations but not *content mastery*, while their general education counterparts are typically trained in content mastery at a high level. Also, many states provide special education teachers with K-12 certification, even though the techniques accompanying such certification may be best-suited to elementary-level students.⁵⁶

Research has shown that teachers in a co-teaching setting may feel that they have received inadequate training.⁵⁷ An inability to coordinate schedules may also contribute to a lack of planning time; as such, **administrators should strive to “design a schedule that will permit regular co-planning time during the school day.”**⁵⁸ Scheduling may be problematic for teachers not just at the planning level, but also at the instructional level. Teachers may find that they lack the time to fully implement their co-taught curriculum, or that time constraints bind them to more traditional modes of instruction, despite there being two teachers in the classroom. To combat this issue, some scholars have suggested that block scheduling (in which classes are typically longer) may be most effective in facilitating co-teaching and similar practices, by allowing more “hands-on instruction, active learning, and processing time.”⁵⁹ Lastly, special education teachers may find that the co-teaching

⁵³ Ibid., p. 8.

⁵⁴ Murawski and Swanson, *Op. cit.*

⁵⁵ Keefe and Moore, *Op. cit.*

⁵⁶ Keefe and Moore, *Op. cit.*

⁵⁷ Neal, Henson and Dunton, *Op. cit.*, p. 19.

⁵⁸ Zepher and Marston, *Op. cit.*, p. 3.

⁵⁹ Keefe and Moore, *Op. cit.*

model does not allow them to fully address the needs of students who require intensive remedial instruction outside of the general education classroom.⁶⁰

To implement a co-teaching model that takes these challenges into account and facilitates effective instruction, some researchers have encouraged districts to perform **internal evaluations of co-teaching effectiveness**. In such scenarios, individual teachers may take on the responsibility of data collection to contribute to a broader research effort.⁶¹ In this vein, Wendy Murawski and Lisa A. Dieker have noted that:⁶²

Co-teachers could have students participate in content-driven pre-post assessments, complete questionnaires or surveys about their experiences in a co-taught class, or collect curriculum-based assessments over time to demonstrate student achievement. This data should be compared to student outcomes in classes in which co-teaching is not occurring. In addition, student progress toward their IEP goals (for students with disabilities) is another method by which the effectiveness of co-teaching should be assessed.

In sum, co-teaching is a mode of instructional delivery whose effectiveness has yet to be examined in a large-scale, controlled and rigorous study. Many laud its various benefits, but its true impact on academic and social achievement—in terms of quantitatively-measured outcomes—remains largely unknown.

⁶⁰ Zigmond and Magera (2009), p. 5.

⁶¹ Emswiler and Hurley (2009), p. 200, 201.

⁶² Dieker and Murawski (2009), p. 10.

Project Evaluation Form

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Figure 2B: CtRS, General Education Teacher Format

Respond to each question below by circling the number that best describes your viewpoint:

	1: Rarely	2: Sometimes	3: Usually
1. I can easily read the nonverbal cues of my coteaching partner.	1	2	3
2. Both teachers move freely about the space in the cotaught classroom.	1	2	3
3. My coteacher understands the curriculum standards with respect to the content area in the cotaught classroom.	1	2	3
4. Both teachers in the cotaught classroom agree on the goals of the cotaught classroom.	1	2	3
5. Planning can be spontaneous, with changes occurring during the instructional lesson.	1	2	3
6. My coteaching partner often presents lessons in the cotaught class.	1	2	3
7. Classroom rules and routines have been jointly developed.	1	2	3
8. Many measures are used for grading students.	1	2	3
9. Humor is often used in the classroom.	1	2	3
10. All materials are shared in the classroom.	1	2	3
11. The special educator is familiar with the methods and materials with respect to this content area.	1	2	3
12. Modifications of goals for students with special needs are fully incorporated into this class.	1	2	3
13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The "chalk" passes freely between the two teachers.	1	2	3
15. A variety of classroom management techniques is used to enhance learning of all students.	1	2	3
16. Test modifications are commonplace.	1	2	3
17. Communication is open and honest.	1	2	3
18. There is fluid positioning of teachers in the classroom.	1	2	3
19. I am confident of the special educator's knowledge of the curriculum content.	1	2	3
20. Student-centered objectives are incorporated into the classroom curriculum.	1	2	3
21. Time is allotted (or found) for common planning.	1	2	3
22. Students accept both teachers as equal partners in the learning process.	1	2	3
23. Behavior management is the shared responsibility of both teachers.	1	2	3
24. Goals and objectives in IEPs are considered as part of the grading for students with special needs.	1	2	3

Source: CEC

Appendix 2

The Council for Exceptional Children’s (CEC) Co-teaching Rating Scale (CtRS) comprises two rubrics (shown below) that both the special education and the general education teacher may complete to judge the degree to which they work effectively together.⁶⁴

Figure 2A: CtRS, Special Education Teacher Format

Respond to each question below by circling the number that best describes your viewpoint:			
1: Rarely	2: Sometimes	3: Usually	
1. I can easily read the nonverbal cues of my coteaching partner.	1	2	3
2. I feel comfortable moving freely about the space in the cotaught classroom.	1	2	3
3. I understand the curriculum standards with respect to the content area in the cotaught classroom.	1	2	3
4. Both teachers in the cotaught classroom agree on the goals of the cotaught classroom.	1	2	3
5. Planning can be spontaneous, with changes occurring during the instructional lesson.	1	2	3
6. I often present lessons in the cotaught class.	1	2	3
7. Classroom rules and routines have been jointly developed.	1	2	3
8. Many measures are used for grading students.	1	2	3
9. Humor is often used in the classroom.	1	2	3
10. All materials are shared in the classroom.	1	2	3
11. I am familiar with the methods and materials with respect to this content area.	1	2	3
12. Modifications of goals for students with special needs are incorporated into this class.	1	2	3
13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The “chalk” passes freely between the two teachers.	1	2	3
15. A variety of classroom management techniques is used to enhance learning of all students.	1	2	3
16. Test modifications are commonplace.	1	2	3
17. Communication is open and honest.	1	2	3
18. There is fluid positioning of teachers in the classroom.	1	2	3
19. I feel confident in my knowledge of the curriculum content.	1	2	3
20. Student-centered objectives are incorporated into the classroom curriculum.	1	2	3
21. Time is allotted (or found) for common planning.	1	2	3
22. Students accept both teachers as equal partners in the learning process.	1	2	3
23. Behavior management is the shared responsibility of both teachers.	1	2	3
24. Goals and objectives in IEPs are considered as part of the grading for students with special needs.	1	2	3

Source: CEC

⁶⁴ Gately, Susan L., and Emily J. Gately. “Understanding Co-teaching Components.” *Teaching Exceptional Children*, 33(4), 2001, pp. 6-7.

http://www.cec.edu/our_centers/navigation/AboutCEC/International/Study/StudyResources/ceper/CoTeaching_A_G_L_37N_G_E_L_I_A_R_APR_2001_TEC_01.pdf#sthash=Ar4k1e2dF

Appendix 1

Figure A1, below, provides a list of teacher actions during co-teaching. Compiled by researchers Wendy W. Murawski and Lisa A. Dieker, the list aims to provide guidance on the types of coordinated activities that co-teachers may perform concurrently during class time.

Figure 1A: Coordinated Co-Teaching Activities⁶³

While one teacher is:	The other teacher is:
Lecturing	<ul style="list-style-type: none"> ❖ Modeling note-taking on the board/overhead ❖ Ensuring "brain breaks" to help students process lecture information
Taking roll	<ul style="list-style-type: none"> ❖ Collecting and reviewing last night's homework ❖ Introducing a social or study skill
Passing out papers	<ul style="list-style-type: none"> ❖ Reviewing directions ❖ Modeling first problem on the assignment
Giving instructions orally	<ul style="list-style-type: none"> ❖ Writing down instructions on board ❖ Repeating or clarifying any difficult concept
Checking for understanding with large heterogeneous group of students	❖ Checking for understanding with small heterogeneous group of students
Circulating, providing one-on-one support as needed	❖ Providing direct instruction to whole class
Prepping half of the class for one side of a debate	❖ Prepping the other half of the class for the opposing side of the debate
Facilitating a silent activity	❖ Circulating, checking for comprehension
Providing large group instruction	❖ Circulating, using proximity control for behavior management
Running last minute copies or errands	<ul style="list-style-type: none"> ❖ Reviewing homework ❖ Providing a study or test-taking strategy
Re-teaching or pre-teaching with a small group	❖ Monitoring large group as they work on practice materials
Facilitating sustained silent reading	<ul style="list-style-type: none"> ❖ Reading aloud quietly with a small group ❖ Previewing upcoming information
Reading a test aloud to a group of students	❖ Proctoring a test silently with a group of students
Creating basic lesson plans for standards, objectives, and content curriculum	❖ Providing suggestions for modifications, accommodations, and activities for diverse learners
Facilitating stations or groups	❖ Also facilitating stations or groups
Explaining new concept	❖ Conducting role-play or modeling concept
Asking clarifying questions	❖ Considering modification needs ❖ Considering enrichment opportunities

Source: Dieker, Lisa. A. and Murawski, Wendy W. (2003). "Co-teaching at the Secondary Level: Unique Issues, Current Trends, and Suggestions for Success."

⁶³ Revised from Murawski and Dieker (2003).