

• *Research on Co-teaching and Teaming*

An Untapped Resource for Induction

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- **Co-teaching and various forms of team teaching are common in today's schools but have rarely been viewed in relationship to supporting novice special education teachers.**
- **Personal compatibility is consistently reported as a key factor in the success of co-teaching.**
- **Special educators who co-teach often take a backseat role in the general education classroom.**
- **Innovative instruction in co-taught classrooms is the exception rather than the norm.**
- **When co-teaching and teaming for inclusion occur in only some classrooms in a school, this may detract from a whole-school commitment to practicing an inclusive education philosophy.**
- **Teachers who co-teach and team report positive attitudes toward these forms of professional interaction; both hold promise for assisting novice special education teachers and increasing their retention.**

The Role of Co-teaching and Teaming in the Induction of Novice Special Educators

Co-teaching and teaming are well-recognized forms of teacher collaboration in schools, but they are not typically thought of in relationship to the induction of new teachers, even though they have existed side by side for decades. Yet as collaborative models for teaching, both co-teaching and teaming have the potential to influence how new teachers experience their initial work in schools. The purpose of this article is to discuss how the research on co-teaching and teaming can be used to assist administrators in both special and general education as they continue to develop purposeful induction support for new special education teachers. In this article, we define co-teaching as shared responsibility for teaching within the same classroom by a general and special education teacher and team teaching as an interdisciplinary group of teachers sharing responsibility for a group of students.

To illustrate the untapped potential of co-teaching and teaming as means of supporting novices, we first consider lessons from several reviews of literature on co-teaching, followed by a discussion of individual

studies of teaming and co-teaching that are applicable to induction at the classroom and school levels. We conclude with the implications of this body of literature for the induction of novice special education teachers.

What Can We Learn From Reviews of Research on Co-teaching?

Since its initial appearance in the late 1980s as a strategy for supporting inclusion, co-teaching has been a dependable—but certainly not a universal—feature of the special education landscape, existing alongside more traditional approaches to special education such as resource rooms and self-contained classrooms. Nevertheless, as efforts to include students who have disabilities in general education have increased and have become institutionalized under multiple reauthorizations of the Individuals with Disabilities Education Act of 2004 (P.L. 108–446, 118 Stat. 2647) and the No Child Left Behind Act of 2001 (P.L. 107–11), the practice of co-teaching continues to be implemented in schools. It provides a means for special and general education teachers to support one another in their common goal of providing a high-quality education to all of their students in the shared setting of a general education

classroom. Four major reviews of the literature on co-teaching and collaboration between special and general education teachers were conducted between 1999 and 2007 (Murawski & Swanson, 2001; Scruggs, Mastropieri, & McDuffie, 2007; Weiss & Brigham, 2000; Welch, Brownell, & Sheridan, 1999). Attention to induction and retention are notably absent from these reviews, but together they do provide some important perspectives on how co-teaching and induction might intersect.

Early Concerns: Establishing Co-teaching as a Model

The earliest review, conducted by Welch et al. (1999), provided a broad, general picture of co-teaching rather than a critical analysis. Unlike typical reviews of the literature, this early review was not limited to data-based studies but included position papers, technical guides, and articles on the topic of co-teaching, which contained no research question or methodology.

Welch and his colleagues (1999) found that attitudes of teachers toward co-teaching were favorable, that teachers were satisfied with co-teaching generally, and that it was a socially validated form of collaborative work for teachers. Teachers' testimonials were uniformly positive. Only seven of the studies they reviewed included data on student outcomes, which suggests there was a greater focus in early writing about co-teaching on studies of teachers' perspectives rather than whether co-teaching was a successful instructional strategy to foster student learning. This review was generally supportive of co-teaching but, as the authors observed, reflected a very limited knowledge base in what was then still a relatively new trend.

A Focus on Original Research on Co-teaching

The following year, Weiss and Brigham (2000) published an analysis of 23 peer-reviewed, data-based studies that had been conducted between 1987 and 1999. These studies, which included five program evaluations, provided evidence that co-teaching was frequently initiated by pairs of teachers who already respected each other or by one teacher

encouraging a peer to become his or her teaching partner. In general, findings suggested that volunteers for co-teaching were more satisfied than nonvolunteers and that volunteers reported greater mutual respect for their co-teachers than those who did not volunteer. In those situations in which teachers did not ask to work together, turf and ownership problems were more likely to occur. A major criterion for successful co-teaching as viewed by co-teachers themselves was the personal compatibility of the teaching pair. Furthermore, based on the program evaluation studies that were included as part of this review, co-teaching teachers, parents, and students with disabilities expressed satisfaction with co-teaching; however, the small number of respondents in these evaluation studies led the authors to question how generalizable these particular findings were.

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Despite documenting general satisfaction on the part of co-teachers, the authors also noted confusion about the roles special educators play in co-teaching settings. Although the majority of special education co-teachers played subordinate instructional roles, a smaller number had more prominent roles, for example, teaching small groups of students, sharing responsibility for large-group instruction, or managing peer tutoring in relationship to the general education curriculum. But they did not appear to provide "appropriate and specially designed instruction" that could be considered highly responsive to the specific needs of students who have disabilities (Weiss & Brigham, 2000, p. 238). This raises questions about the kind of instruction special education teachers are expected to provide in their roles as co-teachers and the level of well-defined expertise they are expected to possess beyond that of general education teachers. If instructional roles are unclear for special education co-teachers, the authors argue, this may have implications for their retention.

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Barriers to successful co-teaching that were identified included lack of common planning time and lack of administrative support. Furthermore, when a co-teaching model was implemented, special education teachers worked with only a limited number of general education teachers, namely, the ones with whom they were co-teaching. Because not all teachers participated in co-teaching, this was viewed as reducing the capacity of co-teaching to contribute to a schoolwide, systematic implementation of inclusion (Weiss & Brigham, 2000).

Looking at Student Outcomes in Quantitative Studies of Co-teaching

In 2001, Murawski and Swanson conducted a meta-analysis that allowed them to compare the data across several quantitative studies of co-teaching to look specifically at student learning outcomes. They included only studies that were based on instructional interventions that lasted at least 2 weeks, that took place in heterogeneous general education classrooms as part of co-teaching, and that generated sufficient data to calculate an effect size so they could make the appropriate comparisons. Only six studies met these criteria. Outcome measures included student absences, measures of attitudes, social measures (e.g., self-concept), grades, and achievement measures in the content areas of mathematics and reading/language arts. In three of the six studies, teachers volunteered to co-teach and attempted to sustain an equal-status relationship with their teaching partners; in four studies, teachers reported sharing responsibility, resources, and accountability for their students' learning. All studies appear to have been conducted with teams of co-teachers that were successful.

Based on the limited number of studies that met their criteria, Murawski and Swanson (2001) concluded that co-teaching is only moderately successful in terms of improving student outcomes. They recommended that more experimental studies using student outcome measures be conducted to determine the effectiveness of co-teaching. Similar to Weiss and Brigham (2000), Murawski and Swanson (2001) also emphasized the importance of conducting research on co-teaching that includes both successful and unsuccessful co-teaching pairs rather than just studying those that were successful.

Qualitative Studies of Co-teaching

After a 6-year lapse in reviews of co-teaching, Scruggs et al. (2007) looked across 32 qualitative studies conducted between 1995 and 2005 that included attention to the novice status of some of the teachers who were included in these studies. They found that in general, special education co-teachers continued to play subordinate roles in the classroom in relationship to their general education peers, usually because special education teachers lacked sufficient academic content knowledge to play more prominent roles. When special education co-teachers did possess adequate content knowledge (e.g., Rice & Zigmond, 2000), they assumed greater levels of instructional responsibility. Similar to the results reported by Weiss and Brigham (2000), time for joint planning and the support of building administrators was viewed as essential but was not always in place.

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Scruggs and colleagues (2007) also found that teachers benefited from co-teaching and that it contributed to their professional development but only when the co-teachers were personally compatible. Personal compatibility, as well as volunteering, was central to the success of co-teaching. In fact, in one of the studies, it was noted that co-teaching partnerships that were not voluntary were "doomed" (Rosa, 1996). Yet it appears that nonvolunteer co-teaching partners can also

sometimes end up forging strong teaching relationships. In this review, a study by Trent (1998) documented one high school general education teacher who was teamed consecutively with two different novice special education teachers; one pair worked out well, and one did not. Because none of the teachers in this study volunteered, these findings suggest that despite the special education teachers' status as novices, personal compatibility appeared to trump volunteering in co-teaching.

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This review highlighted a study by Mastropieri et al. (2005) that documented cases of secondary science and social studies co-teaching and included some discussion of identified novice teachers. In two of the seven teams studied, one of the teachers was a novice—one in a seventh-grade earth science co-teaching pair and one in a high school chemistry pair. In both of these situations, the teachers were assigned to co-teaching rather than volunteering. The seventh-grade team had daily planning time; no mention of common planning time was made regarding the high school chemistry team. The authors did not identify which of the seventh-grade teachers was the novice but did state that the general educator took the lead the majority of the time; the special educator saw this as an advantage because “she was learning so much that she could use later in her teaching” (Mastropieri et al., 2005, p. 264). In the high school chemistry team, the chemistry teacher was the novice in the pair; the special education teacher was a 15-year veteran. They shared all roles and forged a mutually respectful, positive relationship. External university researchers provided support throughout the implementation of co-teaching in each of the teams described.

In contrast, Morocco and Aguilar (2002) focused on co-teaching in interdisciplinary teams rather than as a stand-alone relationship between one general and one special education teacher. Three of the four interdisciplinary teams in a low-income, culturally diverse middle school were involved in co-teaching teams, all of which included a special education teacher. A first-year language arts teacher in one of these teams was the only teacher who was not comfortable in a co-teaching situation; she left the school after her first year. Although the authors did not say so specifically, the implication was that this

new teacher had not volunteered to co-teach with students who had disabilities. This situation was atypical for the school, and the authors argued that it illustrates how the success of co-teaching depends on all members of the team holding strong commitments to inclusion. These authors indicated that co-teaching was embedded into the school's overall interdisciplinary team model: “Teams are responsible for the same students for 2 years (‘looping’), and serve as the first point of contact for parents. Teams, which include content teachers and a special education teacher, develop curriculum units, assess students’ progress, and plan interventions for students with specific needs. Coteaching is an extension of that collaborative planning into the content area classroom.” (Morocco & Aguilar, 2002, p. 330).

In contrast to results reported earlier, which suggest that those who co-teach often appear to play subordinate, backseat roles, in this study the interdisciplinary model itself “made the status of the special education teacher equal to that of the content area teachers and made the interdisciplinary team ... the special education teacher’s primary reference group” (Morocco & Aguilar, 2002, p. 332). This means that special education novices can be socialized to be members of the general education community and do not need to be viewed solely as members of a special education community within their school and/or district—a concern raised by Pugach (1992) with regard to how novice special educators view their own professional status and identity.

Scruggs and his colleagues (2007) were also highly concerned about the lack of attention to student outcomes in co-teaching research. Finally, they described the absence of instructional innovation in co-teaching classrooms and concluded that “if the qualitative research to date represents general practice, it can be stated that the ideal of true collaboration between two equal partners—focused on curriculum needs, innovative practice, and appropriate individualization—has largely not been met” (p. 412).

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McDuffie, Scruggs, and Mastropieri (2007) then reanalyzed these 32 studies by school level

(elementary, middle, high school, and mixed-level studies). From this analysis, the authors reasserted the value of co-teaching, particularly the benefits for special education teachers in terms of learning the academic curriculum and for general education teachers in terms of learning about behavior management and adapting instruction. Consistent with many earlier studies, they focused on the following issues: (a) the backseat role of special education teachers, (b) the high need for personal compatibility and volunteers to make co-teaching work, and (c) the need for administrative support and planning time. Lastly, they expressed concern about the absence of innovative approaches to instruction in co-taught classrooms. “Co-taught classes,” they argue, “should become far more dynamic and innovative than these research reports suggest they presently are” (McDuffie et al., 2007, p. 333). It appears that the initial emphasis on the need to conduct more research on student outcomes in co-taught classrooms has expanded to include a focus on improving the quality of instruction in classrooms where co-teaching is taking place—classrooms that have twice the human resources, it must be added, of traditional classrooms.

The Role of Team Teaching and Schoolwide Collaboration

Co-teaching research has focused largely on the perceptions of and interactions among pairs of teachers, supports needed to implement co-teaching, and, to some lesser degree, how co-teaching affects student learning. In this section, we describe studies of different forms of teaming that have implications for supporting novices beyond one-to-one co-teaching.

The Beacons of Excellence Studies

The U.S. Department of Education’s Beacons of Excellence project (McLaughlin, 2002) conducted in-depth studies of schools that demonstrated exemplary practices for serving students with disabilities in middle and high school settings. Two Beacons studies (Caron & McLaughlin, 2002; Wallace, Anderson, & Bartholomay, 2002), although not focused on co-teaching per se, shed light on the role of co-teaching as one of several strategies to support schoolwide collaboration.

The first study, by Wallace et al. (2002), was based on interviews and focus groups and included an electronic survey of staff members at four schools to illustrate a range of collaborative strategies that high schools could implement to support high-quality inclusive education. All schools in the study had multiple supports in place for students with disabilities and also had implemented some form of teaming across general and special education teachers. The four models in use at these schools included the following:

- A “shared teaching model” (Wallace et al., 2002, p. 354), introduced at the same time basic skills classes and resource rooms were eliminated. The school was also on a block schedule, resulting in teachers moving from lecture only to a project orientation, which made collaboration a necessity rather than merely a desired future outcome.
- Cross-disciplinary blocks developed by teachers as a way to meet their students’ varying needs. Although the school did not formally subscribe to block scheduling, a grassroots effort across special and general education moved in this direction, which affected instructional methods used.
- An Integrated Settings Program in which general and special education teachers and paraprofessionals worked side by side teaching academic subjects. Common planning time facilitated the quality of their working together, which was described as a strongly held, shared value at the school.
- A technical arts high school with a substantial population of students who were deaf that was organized into seven academies. Each academy had a teaching team that included a special educator whose role was described more as consultative rather than instructional. In this study, special educators were viewed as being essential to team functioning.

In all four schools, special education teachers spent at least some time teaching academic content solo in general education classes. These four school cultures were all described as cultures of sharing, collaboration, and inclusion and as schools in which special education was viewed as a support rather than as a crutch. All valued common planning time but also reported that communication was frequent, in large part due to unscheduled meetings. Teachers viewed these multiple forms of collaboration in place at each school, as the reason for their school’s success.

Through interviews and focus groups about collaborative elements in their buildings, the second study examined four exemplary elementary and two exemplary middle schools to identify indicators of collaboration in relationship to building capacity for collaboration (Caron & McLaughlin, 2002). In all six schools, there was a strong sense of a collaborative community and uniformly high expectations for all students, yet the schools varied in the ways collaboration was implemented.

Collaboration was not defined solely as co-teaching. Although in two schools co-teaching was the primary means for collaboration, the other four schools used different ways of co-planning and consultation. In one school, the general education teachers felt confident working with their students who had disabilities and did not feel the need for continuous co-teaching. Instead, they called on special educators, who were their team members, when they were needed. In schools where collaboration was more pervasive, teachers used every available means for collaboration, including technology (i.e., frequent e-mail). The authors conclude that among the most important features of a school's overall capacity for collaboration were (a) formal methods of communication, (b) shared leadership, and (c) a collaborative approach to decision making. However, despite schoolwide commitments to collaboration and high expectations for all students, in two of the schools teachers were not mandated either to co-teach or to accept students who had disabilities. As noted earlier, this raises an important question about what it means to support a philosophy of inclusion schoolwide.

Middle School Teaming Research

Studies to determine the effectiveness of the interdisciplinary team teaching model at the middle school level can also inform how we think of teacher collaboration and teaming in relationship to induction support (Crow & Pounder, 2000; Kruse & Louis, 1997). Bolstered at the time by an interest in middle schools as a strategy for school restructuring on the part of the Carnegie Council on Adolescent Development (1989), these studies provide a multifaceted picture of teaching teams. Although they do not address teaming between special and general education teachers explicitly, taken together they do offer insights into how teachers who team carry out and view their work.

The first study documents the implementation of interdisciplinary teaming and teachers' attitudes toward and perceptions of teaming in four middle school teams in one suburban school (Crow & Pounder, 2000). Team members included teachers in the major academic content areas as well as teachers in exploratory subjects, for example, art, music, physical education, and foreign language. Special educators were not identified as team members. Three of the four teams focused their teamwork on behavioral interventions more than on curriculum. All teams had common planning time but believed they needed more time to work together. Block scheduling was not a feature of the school; three of the four teams believed that the absence of block scheduling was problematic in trying to achieve an interdisciplinary curriculum. The team that was the least experienced, a seventh-grade team, had the most problems, specifically with team leadership and participation.

Kruse and Louis (1997) studied interdisciplinary teaching units in four middle schools that served at-risk populations. In two of the schools, special education teachers were part of these teams; in one school, some of the teams housed students with disabilities and included special education teachers; and in the fourth school, no information about special education was provided. The authors described tensions, which they called "teaming dilemmas" (p. 271), to refer to how team members viewed their primary allegiances. Although teaming conferred many advantages in terms of providing teacher support and supporting a teacher's ability to focus on the individual needs of students, it was difficult for teachers to focus both on their own team and on the needs of the school as a whole.

For example, one team being focused on inclusion, as was the case at one of the schools, did not necessarily mean that inclusion was a priority for the rest of the school. Despite any individual team's modeling of the school's values regarding inclusion and meeting the needs of individual students, the authors argue, teaming as a structure "may simultaneously undermine collaboration and collective responsibility of teachers for those very issues" (Kruse & Louis, 1997, p. 275). Also, limited time for meeting can pit team meeting time against whole-school meeting time and thus inhibit whole-school discussions about essential issues and values. Because teachers who team seem to rely first on their

own team members for assistance, principals may have to manage conflict that emerges as a result of the strength of team allegiance, encourage informal communication networks across teams, and work to integrate teachers who are feeling marginalized. The authors conclude that on its own, team teaching cannot do the work of creating a school community with common commitments and values.

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One additional point made by Kruse and Louis (1997) that is directly related to induction is that it may be difficult for novices to break into teams of veteran teachers. At one school where novice special education teachers were on the team, veterans were not pleased by the need to constantly support new teachers and socialize them to the team and the school. Thus, teacher turnover itself within special education may negatively affect the support new teachers receive.

What Can More Recent Studies of Co-teaching and Teaming Offer to Induction?

Several additional recent studies of co-teaching and teaming, described in this section, provide information about the ways co-teaching can affect novice special education teachers, in terms of both supporting them and creating potential sources of stress. These studies reinforce and extend the findings of the studies described previously.

One important issue addressed in these more recent studies is the impact of the proximity of novice special education teachers to general education teachers and their interactions with them. In a survey of 596 novice special education teachers, Griffin et al. (2009) found that new special education teachers were more likely to rate collaboration and communication as accomplishments if they either (a) taught in an integrated general education classroom or (b) were

located near one in the building. This suggests that novice special education teachers do not necessarily rely on other special education teachers but rather receive and value support from their general education colleagues.

In an earlier study, Kilgore and Griffin (1998) followed four of their teacher education program graduates into their first two years as special education teachers to determine how they defined their early problems of practice and also how the school context influenced their work. Three graduates taught in self-contained settings and one moved from a self-contained to an inclusive setting (i.e., co-teaching in a general education classroom) midway through her first year of teaching and remained there during her second year. Those who were in self-contained settings felt marginalized in their schools, depended nearly completely on other special education teachers for support, were isolated from their general education peers, expressed discouragement, and questioned whether they could continue in this type of teaching context. However, the novice teacher who shifted to an inclusive co-teaching setting described having a high degree of integration with her general education colleagues, serving as their team leader, and taking charge of team projects—in contrast to her initial experiences in a self-contained classroom, which had been similar to those of the other three teachers in the study. Although the sample size in this study was quite small, the findings point to the importance of support from general educators—support that can occur in co-teaching—and suggest implications for retention.

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Mentoring as a direct form of support can also take place within the team itself. For example, Jimenez-Sanchez and Antia (1999) studied three teams of two teachers each, in which one team member was hearing and one deaf, regarding their perceptions of team teaching. One of these teams included a novice teacher. In that team, the general education teacher, who was hearing, had three years of experience, and her co-teacher, who was deaf, had 13 years of experience—

five at the school they were teaching in at the time of the study. The special education veteran directly helped his novice partner by initiating her into the school's norms and procedures. One of the roles across the teams studied was that the more experienced teacher "assumed the role of mentor within the team" (Jimenez-Sanchez & Antia, 1999, p. 219) for less experienced teachers at the school site. A competing explanation for special education teachers taking a backseat role in co-teaching may be their relative lack of experience generally.

In addition, recent studies have shown that along with its positive qualities, co-teaching can also cause stress for novices as well as for experienced teachers. Role definition is one source of stress (Hang & Rabren, 2009; Naraian, 2010). For example, Naraian (2010) described the experiences of a dually-certified special education teacher co-teaching a first-grade class with a general education teacher who, after their initial work together, went on maternity leave for several months. The special education teacher's role had been subordinate to that of her general education peer before this leave, but during the leave, the special education teacher was assigned to the role of the general education teacher. Upon her original partner's return, she was again expected to take on a backseat, secondary role, even though she had proven herself fully capable of taking the lead as the general education teacher. Having been empowered in this manner, the special education teacher advocated for her full range of abilities to work with the students but was not welcomed into an expanded role once the original general education teacher returned. The author discusses the danger of a self-fulfilling prophecy within a rigid demarcation of roles. She suggests that novices who are co-teaching may need to advocate for themselves to draw on their full repertoire of skills and achieve co-equal teaching status.

In the first year of teaching, for example, novice special education teachers can be faced with the need to manage conflicts with their co-teachers (Castro, Kelly, & Shih, 2010), something teachers who teach alone are not likely to experience in the same way.

In addition to role clarification, potential sources of stress in co-teaching can surface due to

incompatible personality characteristics and working styles, as well as differing philosophical beliefs about instruction. In the first year of teaching, for example, novice special education teachers can be faced with the need to manage conflicts with their co-teachers (Castro, Kelly, & Shih, 2010), something teachers who teach alone are not likely to experience in the same way. Teams that include novice special educators, and whose members not only have different teaching styles but also different styles of planning, can experience a lack of success working together (Leatherman, 2009). Furthermore, in a study of mathematics and collaboration, Van Gardenen, Scheuermann, Jackson, and Hampton (2009) noted that differing philosophical beliefs about instruction have to be integrated productively if co-teaching is to meet the wide-ranging needs of today's students.

Finally, lack of adequate planning time continues to be viewed as a barrier to the success of co-teaching. Lack of time to engage in comprehensive planning affects the quality of collaboration not only in terms of how teachers apportion their instructional time during co-teaching (Leatherman, 2009) but also how they address behavior management issues that may arise (Hang & Rabren, 2009).

Implications for Administrator Support of Novice Special Education Teachers

What direction can the research reviewed in this article offer to administrators who are striving to retain novice teachers? On the whole, co-teaching and teaming continue to be viewed as beneficial by teachers, especially in terms of personal and professional support (Kilgore & Griffin, 1998; Mastropieri et al., 2005; McDuffie et al., 2007; Weiss & Brigham, 2000; Welch et al., 1999). Also, it seems important for special education teachers to participate closely with their general education colleagues both to widen the base of support they can tap into beyond special educators alone and to appreciate what they can learn from their general education colleagues. This can contribute to their socialization not just as members of the professional special education community but also as members of the entire school community as a whole (Pugach, 1992).

However, several important challenges have been raised in this review. In summary, they are:

- Curricular and instructional innovations are intended to be the hallmarks of co-teaching, yet practice appears to be lagging behind the ideal.
- Novice special education teachers often have limited academic content knowledge.
- Many special education teachers play subordinate roles in co-teaching contexts compared with their general education peers, serving as assistants rather than being fully engaged in instruction or providing innovative approaches to instruction. Whether because they are hesitant novices or because they lack sufficient academic content or pedagogical content knowledge (Ball, Thames, & Phelps, 2008) to innovate and play prominent roles, a subordinate role for special education teachers diminishes the potential of co-teaching to enhance instructional innovation.
- Co-teaching is typically voluntary and is frequently initiated by pairs of teachers who already respected each other or by one teacher encouraging a peer to become his or her teaching partner.
- Personal compatibility and the congruity of professional philosophies are hallmarks of successful co-teaching; in their absence, novices can experience stress.
- Special education teachers often experience confusion about their roles in the classroom.
- It can sometimes be difficult for novices to break into teams of veteran teachers.
- Special educators are not always identified as full team members.
- Lack of adequate planning time continues to be a concern, even when co-teaching pairs or interdisciplinary teams already had regular, structured planning time in place.
- Teaming as a structure “may simultaneously undermine collaboration and collective responsibility of teachers for those very issues” (Kruse & Louis, 1997, p. 275); conflict can emerge when the strength of team allegiance outweighs allegiance to the school as a whole.
- Team teaching and/or co-teaching alone cannot do the work of creating a school community with common commitments and values.

A limitation of this literature is that the research base itself is not extensive. Although there are hundreds of publications about co-teaching, the number of data-based, empirical studies is quite small, particularly in relationship to studies of

student learning. The research on co-teaching continues to be based primarily on documentation of the experiences of successful teams of teachers, which can skew the results. Furthermore, the literature is heavily dependent upon teacher self-report, that is, teachers’ own perceptions of co-teaching.

Despite these limitations, however, the literature points to guidance for administrators about ways co-teaching and teaming can be structured to support novice special education teachers and, by extension, the quality of support these teachers provide their students. Based on this review, we offer the following recommendations to strengthen the early teaching experiences of new special education teachers in relationship to co-teaching and teaming:

1. *Select teams carefully and closely monitor them.*
Many studies pointed to the success of having team members volunteer for co-teaching (Morocco & Aguilar, 2002; Scruggs et al., 2007; Weiss & Brigham, 2000), and as much as possible, this should be encouraged. However, care should be taken that the teams are not exclusive or do not become separate from the school. Under certain circumstances, success can also come from being assigned to a team (Trent, 1998). Issues for administrators to consider in making assignments include compatibility of personalities, content expertise, and instructional philosophies. A consideration in assigning teams with novices is the willingness of the veteran teacher to serve as a mentor. Although co-teachers or team teachers might be in a position of serving as natural mentors, veterans may also have negative feelings about this role if they constantly have to mentor new teachers assigned to their teams. New teachers may have assigned mentors from school or district induction programs; administrators will need to monitor the relationships when an outside special education mentor is working within a co-teaching situation. Finally, as the dynamics of a team can change over time, administrators are urged to monitor team members regularly, looking carefully for signs of stress or marginalization of particular teachers.
2. *Provide targeted professional development for novices and veteran teachers who are engaged in teaming.*
When novice special educators team in the classrooms of teachers who are not high-quality role models for instruction, novices neither gain

knowledge of innovation nor develop a sense of what their roles as fully recognized teachers actually are. Parity between co-teachers or team members should encourage the kind of significant instructional innovation that can lead to improved outcomes for students. To address concerns raised about the quality of instruction in co-taught classrooms, strong professional development that focuses on instructional innovations, ways to collaboratively integrate core academic curriculum and more intense instruction for those who need it, and decision making based on data from outcome measures are called for (see McLeskey, this issue, for a discussion of learner-centered professional development). Furthermore, having the time to observe a general education teacher in action on a daily basis can be an important form of professional development for novice special educators, especially as a means of learning academic content, which is typically limited in preservice programs in special education.

3. *Ensure and protect adequate planning time for co-teaching teams, especially when they include novices.* The concern about time raised across the studies emphasizes how critical it is to have a predictable, sustained time for team members to work together. If veteran teachers are feeling constrained by insufficient planning time, novices may experience even greater constraints. Absence of sufficient planning time might contribute to special education teachers' playing a subordinate role. Without adequate time for discussing roles and co-teaching approaches, the default might be letting the stronger teacher take the lead. One way to ensure planning time is to include special educators in grade-level meetings, scheduled so they can attend all those meetings relevant to their co-teaching.
4. *Provide schoolwide support for inclusion.* When the school as a whole is committed to inclusive education, with shared responsibility, resources, and accountability for all students' learning, novice special education teachers may experience less ambiguity about their roles and more acceptance as full members of the school community and be viewed as central to enacting such a philosophy. Furthermore, with a schoolwide philosophy in place, single teams of teachers are not disproportionately responsible

for educating students with disabilities. Within a culture of shared responsibility and collaboration to promote inclusion, the provision of formal and informal communication networks across teams should address the issue of how special education teachers conceptualize their primary identities and the school, rather than a single team being the unit of identity. Furthermore, taking a schoolwide perspective would mean including special education teachers in all forms of professional development, especially those directly related to academic content and pedagogical content knowledge (see Blanton & Perez, this issue, for a discussion of professional learning communities).

In conclusion, co-teaching and team teaching seem like natural allies for providing support to novice special education teachers, and for general education teachers as well. They represent a routine form of collaborative work and counteract the historic isolation of special education teachers. Despite identified benefits in terms of support and teacher learning, however, the literature would suggest that co-teaching and teaming have not yet demonstrated their full potential either to build collaborative, inclusive school communities for special education teachers that could reduce the attrition of novices or to support significant curricular and instructional innovation. Administrators have a pivotal role to play in tapping into the potential of these collaborative structures to support and retain novice special education teachers in our schools.

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