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An Examination of Co-Teaching Perspectives and Efficacy Indicators

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Co-teaching has been developed as an instructional approach to support students with disabilities in general education classrooms. The purpose of this study was to identify teachers' and students' perspectives of co-teaching and the efficacy of this teaching approach. Forty-five co-teachers and 58 students with disabilities ($N = 103$), all of whom were new to co-taught classrooms during the 2004 through 2005 school year, participated in this study. Data were collected from surveys, observations, and records review. Significant differences in student academic and behavioral performances were found in comparisons between the year before co-teaching and the year of co-teaching. Students with disabilities and their teachers also reported positive perspectives about co-teaching. Based on these preliminary results, co-teaching appears to be an effective instructional delivery option for meeting the needs of students with disabilities in general education classrooms.

Keywords: *co-teaching; inclusive classroom; access to the general curriculum*

Co-teaching is defined as "two or more professionals delivering substantive instruction to a diverse, or blended, group of students in a single physical space" (Cook & Friend, 1995, p. 2). Co-teaching can be further described as having four components: (a) two certified educators, usually one general education teacher and one special education teacher; (b) instruction delivery by both teachers; (c) a heterogeneous group of students (i.e., students with disabilities are taught with their peers without disabilities); and (d) a single classroom where students with disabilities are taught with their peers without disabilities (Friend & Cook, 2007). These components are incorporated into several co-teaching models that have been developed (i.e., leading and assisting, station teaching, parallel teaching, alternative teaching, and team teaching). Selection of one of these models should be guided by students' characteristics and needs, content areas, and instructional goals (Cook & Friend, 1995; Dieker & Murawski, 2003).

Student satisfaction has been considered as one way to measure social validity of instructional approaches (Wolf, 1978). In a study examining students' perspectives of co-teaching, Dieker (2001) found that students who were taught by effective co-teaching teams indicated their overall satisfaction with the co-teaching instructional practice. Although not all students understood why two teachers were in one classroom, they did

report that they received more academic assistance and had fewer behavior problems in the co-taught classroom. In another comprehensive study, students receiving special education services expressed that they (a) liked co-teaching, (b) received more teachers' help and attention, and (c) learned things well through hands-on activities in co-taught classrooms (Gerber & Popp, 1999). However, students expressed a major concern with the confusion associated with having two teachers in one classroom because they often were provided different explanations from different teachers.

In addition to taking students' perspectives into consideration, one also should consider the perceptions of teachers who are implementing any instructional approach. Several studies have reported that co-teachers have positive perceptions of co-teaching. Specifically, co-teachers have felt that their students experienced improved self-confidence, academic performance, social skills, and peer relationships (Austin, 2001; Cramer & Nevin, 2006; Ritter, Michel, & Irby, 1999; Trent, 1998; Walther-Thomas, 1997). Although there appears to be a consensus regarding co-teachers' perspectives of their students' performances, teachers may have different perceptions of their co-teaching practices. In a statewide survey of general and special education co-teachers, each group saw itself as having more responsibilities than the other for instructional and behavioral management

(Fennick & Liddy, 2001). Furthermore, Rice and Zigmond (2000) found that confusion about roles and responsibilities is further compounded when special education co-teachers do not assume roles equal to their general education teacher counterparts. Teachers involved in co-teaching recognize the importance and need for establishing appropriate roles and clarifying responsibilities (Keefe & Moore, 2004). When roles and responsibilities are not clearly defined, the co-teaching approach has been “characterized by a domination by content subject teachers” (p. 190), with special education teachers simply monitoring or helping. An identification and understanding of roles and responsibilities must occur for both general and special education teachers to be effective instructional agents in the co-teaching process (Dieker, 2001).

To teach effectively, co-teachers need to spend time (a) getting to know each other; (b) sharing teaching skills, philosophies, and perspectives; and (c) co-planning instructional strategies (Walther-Thomas & Bryant, 1996). Co-teachers need a weekly co-planning period to discuss instructional issues, behavior management, teachers’ roles and responsibilities, and students’ Individualized Education Program (IEP) goals. Deliberate and thoughtful co-planning is essential to ensure that all students in a co-taught classroom receive appropriate instruction (Cook & Friend, 1995; Dieker & Murawski, 2003; Scruggs & Mastropieri, 1996; Walther-Thomas & Bryant, 1996; Welch, 2000). However, co-teachers have reported that a lack of planning time is a significant problem (Keefe & Moore, 2004; Scruggs & Mastropieri, 1996; Walther-Thomas & Bryant, 1996). In a 2-year co-teaching study, for example, co-teachers commented that more planning time would be helpful (Eaton, Salmon, & Wischnowski, 2004). In fact, finding time for co-planning has been considered to be a “serious problem” (Walther-Thomas, 1997, p. 405). The importance of co-planning, therefore, should be considered an essential element of co-teaching.

In spite of the popularity of co-teaching (National Center for Restructuring and Inclusion, 1995), a relatively limited number of studies have examined the efficacy of this approach. A comprehensive meta-analysis by Murawski and Swanson (2001) of 89 articles related to co-teaching provides some indication of the effectiveness of this instructional approach. Of these, however, only 6 studies had sufficient quantitative data that could be used in their calculations. Measures from those 6 individual studies yielded an average effect size of 0.40, indicating that co-teaching is a moderately effective service delivery approach for students.

The students’ outcomes are a reasonable criterion to measure the efficacy of a particular instructional approach (Gerber & Popp, 1999). However, not only are studies that investigate student outcomes in co-taught classrooms limited but findings also are quite varied. In a study examining students with learning disabilities (LD) in co-taught classrooms, it was found that these students had higher grades in core courses and attended more school days (Rea, McLaughlin, & Walther-Thomas, 2002) than those students in pullout programs. In contrast, another study demonstrated that students with LD in co-taught classrooms did not achieve better standard test scores than did those in resource or self-contained special education classrooms (Murawski, 2006). These few studies provide different findings regarding co-teaching outcomes; therefore, more research is needed as interest in this instructional approach increases.

This study was undertaken to examine co-teaching by investigating the perspectives and efficacy of this instructional delivery approach. The first objective of this study is to identify perspectives of teachers and students with disabilities. The second objective is to determine the effectiveness of co-teaching using students’ academic and behavioral records. Specifically, students with disabilities’ *Stanford Achievement Test* (SAT) scores, attendance records, and discipline referrals from the year of co-teaching were compared to their records from the year before co-teaching.

Method

The data sources for this study included observations, surveys, and records analysis. Specifically, observations were used to determine fidelity of treatment according to co-teaching components observed. Survey results provided information on the perspectives of co-teachers and their students with disabilities. Also, students’ SAT scores, discipline records, and attendance records were analyzed to determine the efficacy of co-teaching.

Participants and Co-Teaching Setting

This study took place within a southeastern U.S. public school system and included seven schools: four elementary schools, one middle school, one junior high school, and one high school. Participants for this study included 31 general and 14 special education teachers who were implementing their 1st year of co-teaching. These 45 co-teachers from Grades 1 through 10 represented 82% of all the co-teachers in the school system. These teachers co-taught four core subjects, including English/language arts, math, science,

Table 1
Demographic Information of Teacher Participants (n = 45)

	General Education Teacher	Special Education Teacher	Gender		Teaching Grade Levels			
			Male	Female	1st to 5th	6th to 7th	8th to 9th	10th to 12th
n	31	14	7	38	24	8	9	4
%	69	31	16	84	53	18	20	9

Table 2
Co-Teachers by Grade Level (n = 45)

General Education Teacher	1st to 5th	6th to 7th	8th to 9th	10th to 12th
# of Teachers Who Co-Teach One Subject	7	4	8	2
# of Teachers Who Co-Teach Two Subjects	6			
# of Teachers Who Co-Teach Three Subjects	2			
# of Teachers Who Co-Teach Four Subjects	2			
Special Education Teacher				
# of Teachers Who Co-Teach One Subject	1	4	1	2
# of Teachers Who Co-Teach Two Subjects	2			
# of Teachers Who Co-Teach Three Subjects	3		1	
# of Teachers Who Co-Teach Four Subjects				

and social studies. Of this group of teachers, special education teachers co-taught with more than one general education teacher. Tables 1 and 2 provide information regarding teacher participants.

Participants for this study also included 58 students with disabilities, who represented 52% of all students with disabilities co-taught in this school system. These students were identified as having disabilities according to the criteria for disabilities as defined by the state’s administrative code for special education services. They also attended co-taught classrooms in one, or more than one, of the four core content area subjects (i.e., English/language arts, math, science, and social studies) during the 2004 to 2005 school year. The demographic characteristics of student participants are comparable with those of all students with disabilities in this school system (see Table 3).

Instrumentation

Perspective surveys. The *Teacher’s Perspective* and *Student’s Perspective Surveys* were designed to identify co-teachers’ and students’ attitudes toward and opinions of co-teaching by having them rate each survey item using a 5-point Likert-type scale (e.g., 0 = *strongly disagree*, 1 = *disagree*, 2 = *neutral*, 3 = *agree*, 4 = *strongly agree*). The *Teacher’s Perspective Survey* addressed four major domains: (a) components of co-teaching (12 items),

Table 3
Demographic Information of Student Participants (n = 58) and All Students With Disabilities in Co-Taught Classrooms (N = 112)

	Student Participants (n = 58)		All Students With Disabilities (n = 112)	
	n	%	n	%
Ethnicity				
Caucasian	22	38	38	34
African American	36	62	73	65
Other	0	0	1	1
Disabilities				
Developmental delay	2	3	2	2
Emotional disturbance	1	2	1	1
Hearing impairment	3	5	4	4
Mental retardation	6	10	15	13
Other health impairment	14	24	25	22
Orthopedic impairment	1	2	1	1
Specific learning disabilities	24	42	48	43
Speech and language impairment	7	12	16	14

(b) teachers’ roles and responsibilities (8 items), (c) teachers’ expectations (7 items), and (d) planning schedule (4 items). The *Student’s Perspective Survey* also has

Table 4
Teacher's Perspective Survey Domains and Items

Domains	Survey Items
Components of co-teaching	1. Leader and assistant 2. Both teachers simultaneous teach 3. Both teachers alternating teach 4. Both teachers teach the same content segments 5. Both teachers teach different content segments 6. There are two equal-size groups of students in one classroom 7. There is one group in a classroom with individuals who need support and help sometime 8. There are two groups of students in a classroom: one bigger group and one smaller group 9. There is one group in a classroom 10. Both teachers change teaching location between groups when they are teaching 11. Both teachers remain with same group when they are teaching 12. There are heterogeneous groups in a classroom
Teacher's roles and responsibilities	13. The general education teacher leads in a co-taught classroom 14. The special education teacher leads in a co-taught classroom 15. The general education teacher is responsible for lesson planning 16. The general education teacher is responsible for instruction 17. The general education teacher is responsible for evaluating students 18. The special education teacher is responsible for modification 19. The special education teacher is responsible for monitoring student behaviors 20. The special education teacher is responsible for monitoring student remediation
Teacher's expectations	21. The support provided to students with disabilities in a co-taught classroom is insufficient 22. Students with disabilities learn more in a co-taught classroom than in a single-teacher general education classroom 23. Students with disabilities in a co-taught classroom increase positive feelings about themselves as capable learners 24. Students with disabilities have difficulty adjusting to the higher expectations in the co-taught classroom 25. The behaviors of students with disabilities are better in a co-taught classroom 26. The behaviors of students with disabilities are worse in a co-taught classroom 27. The behavior issues interfere with other students' learning needs
Planning schedule	28. Co-teachers need a common planning time officially scheduled during school hours 29. Co-teachers need a daily planning period 30. Co-teachers need a weekly planning 31. Co-teachers need to plan for lessons, evaluation of students' performance, and other general issues

four domains: (a) difference between resource classroom and co-taught classroom (4 items), (b) students' expectations (3 items), (c) challenges (4 items), and (d) advantages and/or disadvantages (8 items). The *Teacher's* and *Student's Perspective Survey* items can be found in Tables 4 and 5.

All of the survey items were developed according to information found in previous co-teaching literature (Austin, 2001; Cook & Friend, 1995; Dieker, 2001; Dieker & Murawski, 2003; Fennick & Liddy, 2001; Gerber & Popp, 1999; Keefe & Moore, 2004; Murawski & Swanson, 2001; Noonan, McCormick, & Heck, 2003; Rice & Zigmond, 2000; Ritter et al., 1999; Villa, Thousand, & Nevin, 2004; Walther-Thomas & Bryant, 1996; Weiss & Lloyd, 2002; Zigmond, 2003). For example, the descriptions of co-teaching components (such as delivery of instruction and student grouping) found in Cook and Friend (2000) were used to develop

survey items for the co-teaching components domain in the *Teacher's Perspective Survey*. Similar alignment was used with the remainder of the survey items for both instruments. In addition, drafts of survey questions were reviewed by five experts and nine co-teaching research team members. The validity, clarity, and relevance of survey questions also were discussed by consultants during five research development meetings. Internal consistency was calculated on each section of the *Student's Perspective Survey* using Cronbach's alphas (difference between co-taught and resource classroom = .77, students' expectation = .64, challenges = .75, advantage/disadvantage = .64). For the *Teachers' Perspective Survey*, the reliability was calculated on the Teachers' Expectation section (Cronbach's $\alpha = .80$).

Classroom observations. An observation form was designed to document co-teaching implementation.

Table 5
Student's Perspective Survey Domains and Items

Domains	Survey Items
Differences between resource classroom and co-taught classroom	1. In a co-taught classroom, I have more friends 2. In a co-taught classroom, I have fewer friends 3. In a co-taught classroom, I can always get more help from my friends 4. In a co-taught classroom, I can always learn from my friends
Student's expectations	5. I can learn as well as other students in a co-taught classroom 6. I am not sure if I can learn as well as other students in a co-taught classroom 7. I cannot learn as well as other students in a co-taught classroom
Challenges	8. In a co-taught classroom, assignments are harder 9. In a co-taught classroom, assignments are easier 10. In a co-taught classroom, the textbooks are harder to understand 11. In a co-taught classroom, the tests are harder
Advantage/disadvantage	12. In a co-taught classroom, I learn more 13. In a co-taught classroom, I learn less 14. In a co-taught classroom, I work harder 15. In a co-taught classroom, I receive more attention from teachers 16. In a co-taught classroom, I get more help from two teachers 17. In a co-taught classroom, my behavior is better 18. In a co-taught classroom, I am expected to do more than I can do 19. In a co-taught classroom, I find it is harder to focus on my tasks

Specifically, five co-teaching models (Friend & Cook, 2007) were broken down into three dimensions and 13 specific components. The three dimensions included teaching roles (3 components), student group distribution (4 components), and teachers' locations (3 components). Co-teaching dimensions and observations components can be found in Table 6.

Specific teaching behaviors for each co-teaching component were described to 11 observers in research team training meetings. All observers were trained to identify components of co-teaching and use the observation form. This was achieved by having observers practice identifying co-teaching component occurrences in simulated classroom scenarios. Observers practiced using the observation form until they achieved 80% accuracy on a co-teaching components test.

Observations were conducted during complete co-teaching class periods, and single classrooms were observed for a full class period while both a general and a special education teacher were teaching a heterogeneous group of students. All co-teachers were requested not to make alterations to their routine classroom practice during observation periods.

Procedures

Unique alphanumeric codes were assigned to participants by the school system's central office staff. Students' SAT scores, discipline referrals, and tardy and absence

Table 6
Co-Teaching Dimensions by Observed Components

Co-Teaching Dimensions	Observation Components
Teaching roles	1. Leader and assistant 2. Simultaneous teaching 3. Alternating teaching
Student group distribution	1. Two equal-size groups 2. Large group with individuals 3. One bigger group and one smaller group 4. One group
Teachers' location	1. Changes between groups 2. Remains with same group 3. Not applicable—a single group

records from 2003 to 2004 (pre-co-taught) and 2004 to 2005 (co-taught) school years were gathered and then released to the researcher using the participants' codes.

Perspective surveys. Co-teachers and students with disabilities were asked to complete one of two perspective survey instruments. All ($n = 45$) participating co-teachers completed their surveys and placed their unique participant codes on the surveys prior to returning them. Participating special education teachers also were provided directions on how to distribute and administer the

Table 7
Means, Standard Deviations, and Analysis of Variance for Survey Items Across Three Groups

Areas	GT <i>n</i> = 31		ST <i>n</i> = 14		Student <i>n</i> = 50		<i>df</i>	<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Expectations of self-confidence	3.19	0.83	2.86	0.77	2.88	1.12	92	1.01
Expectations of learning more	3.26	0.89	2.93	0.92	2.90	1.16	91	1.19
Support for students	2.61	1.23	3.57	0.65	2.73	1.27	91	*3.40
Student behaviors	2.63	0.89	2.64	1.01	2.63	1.27	90	0.00

Note: The number of respondents reported for each section is the maximum number of participants who responded for that section. GT = general education teacher; ST = special education teacher; student = students with disabilities.

* $p < .05$.

Student's Perspective Survey to their students using the unique alphanumeric codes. These teachers administered the surveys and 50 (86%) of the students with disabilities participating in the study completed them.

Observations. The researcher randomly chose pairs of observers from the co-teaching research team to conduct observations in each of the 15 co-taught classrooms. Observers independently marked co-teaching components as they viewed their occurrence during 5-min intervals in co-taught classrooms. The overall consistency in identifying co-teaching components among observers across 15 classrooms was 94% (total number of observation agreements/total number of observations). Again, based on observation of model components, co-teaching instructional practices were being implemented by the teacher participants.

Data Analysis

All quantitative data were analyzed using SPSS 11.5 for Windows with the significance level for statistical tests set at .05. This study used a pre-post repeated measures design to determine if differences occurred in students with disabilities' academic and behavioral performances after 1 year of co-teaching.

Perspective Surveys

Means of all the item responses from the *Student's Perspective Survey* and *Teacher's Perspective Survey* were computed. Survey items regarding expectations of self-confidence and learning more, support for students, and students' behavior were analyzed to determine if three groups of participants (i.e., general education teachers, special education teachers, and students with

disabilities) had significantly different perspectives by using one-way ANOVA at the .05 level of significance.

Student Academic and Behavior Performance

The SAT National Percentile Ranks (NPRs) of students with disabilities in reading, English/language arts, and math from the 2003 to 2004 school year and the 2004 to 2005 school year were collected. The NPRs were then converted into National Curve Equivalents (NCEs) for analysis purposes. Records on absences, tardiness, and discipline referrals were used to measure student behavior. These student behavioral records from the 2004 to 2005 school year were compared with the records from the previous school year. Paired-samples *t* tests were used to determine if there was a significant difference between the academic outcomes of students with disabilities the year prior to co-teaching and after 1 year of co-teaching. In addition, a one-sample *t* test was conducted to examine the extent to which the co-taught student group improved academically at a rate comparable to the total student population. In other words, analysis was conducted to determine if typical gain was achieved by the co-taught students with disabilities as compared to the entire student population.

Results

The data analyzed in this study included students' academic and behavioral performances and teachers' and students' responses to surveys. Observations were conducted to ensure that co-teaching practices were being implemented in the participants' classrooms. These observation results indicate that co-teaching practices were being implemented in the classrooms involved in

this study. The results of the analyses of students' academic and behavioral performances and participants' responses to surveys are as follows.

Academic Performance of Students With Disabilities

There were statistically significant differences in the reading and math NCEs of students with disabilities when comparing their NCEs from the co-taught year with NCEs from the previous year when they were not co-taught ($t = 2.96, p < .01$; $t = 6.97, p < .001$, respectively). The rate at which the SAT NCEs of co-taught student participants increased during the co-teaching year was compared with the NCE increase rate of all the students in the school system. After 1 year of co-teaching, no significant differences in academic achievement, as measured by SAT NCEs, were found between student participants and all students at the same grade level.

Behavioral Performance of Students With Disabilities

There were statistically significant differences in discipline referral and school absence records in the co-teaching year compared with the records of students in the previous year when they were not co-taught ($t = 2.715, p < .001$; $t = 2.602, p < .05$). Student participants' absence, tardy, and discipline referral records increased from the school year before co-teaching to the co-taught school year. These increases were found to be significant for students' absences and discipline referrals during the co-teaching year.

Perspective Surveys

One-way ANOVA was used to compute mean differences in the survey question responses from the three participant groups. These survey questions addressed general and special education teachers' and students with disabilities' perceptions of their (a) expectations in the areas of self-confidence and learning more, (b) support for students, and (c) student behavior. The ANOVA results indicated significantly different perspectives regarding the support for students with disabilities between these three groups of participants, $F(2, 91) = 3.40, p = .04$. Table 7 presents the means, standard deviations, and ANOVA results of perspective differences among three groups (i.e., general education teachers, special education teachers, and students with disabilities). Table 8 presents the multiple comparisons among the three groups for the question regarding whether

Table 8
Multiple Comparisons for "Student Receives Sufficient Support": Item #21
Teacher Survey and Item #16 Student Survey

Participant		Mean Difference	Standard Error
GT	ST	-.96*	.38
GT	Student	-.12	.27
ST	GT	.96*	.38
ST	Student	.12	.36
Student	GT	.12	.27
Student	ST	-.84	.36

Note: GT = general education teacher group; ST = special education teacher group; student = student with disabilities group.

* $p < .05$.

students with disabilities receive sufficient support in the classroom.

According to the *Teacher's Perspective Survey*, all teacher participants, 100% ($n = 45, \mu = 3.53$), believed that they needed a common weekly planning period and a comprehensive planning period ($n = 45, \mu = 3.70$). Ninety percent ($n = 28, \mu = 3.57$) of the general education teachers believed that they were primarily responsible for monitoring students' behaviors. When posed this same question, 93% ($n = 13, \mu = 3.36$) of the special educators believed that they were primarily responsible for managing students' behavior.

Discussion

Limitations

This study provides preliminary information regarding the teachers' and students' perspectives as well as efficacy of co-teaching in one southeastern school district. The results of the study must be considered with its limitations. One limitation of this study is the lack of a control group. This study, therefore, does not address any differences that may occur between groups that are in co-taught classrooms and groups that are in traditional service delivery classrooms. The participants included only students with disabilities who were being co-taught and, therefore, the generalization of the results are limited to this population. In addition, data gathered in this study were from multiple grade levels and across four subject areas. This wide range of grade levels may have affected the generalization of the findings of this study. Another limitation is the use of scores from group-administered standardized tests. Furthermore, there were four subjects (i.e., English/language arts, math, science,

and social studies) co-taught across grade levels; however, only records in math and English/language arts were analyzed in this study because standardized data were available only from these subject areas. Also, due to the fact that it was the 1st year of co-teaching in this school system, there was a lack of longitudinal information on the students' performance in co-taught classrooms. Therefore, it was not possible to determine the long-term effects of co-teaching based on the results of this study.

In spite of its limitations, this study's findings provide information regarding the efficacy and perspectives of co-teaching. According to teachers' and students' perspectives, positive benefits, as well as challenges and issues of co-teaching, were identified. This study also indicated differences in students' behavior and academic performances in comparison between the year before co-teaching and the year of co-teaching.

Teachers' and Students' Perspectives

Throughout this study, student and teacher participants reported positive perspectives of co-teaching. All participant groups, for example, showed agreement with statements that students with disabilities increased their self-confidence, learned more, had sufficient support, and exhibited better behaviors in co-taught classrooms. Although all of three groups indicated that students received sufficient support, special educators felt more strongly than the other groups that this support was sufficient to meet students' needs. However, general education teachers and students with disabilities agreed, but not as strongly, with this statement. This significant difference in perception may be attributed to the fact that the special education teachers were primarily responsible for providing support to students with disabilities in the co-taught classroom and, therefore, felt more strongly that students were receiving sufficient support.

Although no other differences in perceptions were found to be statistically significant among the three groups, both groups of teachers perceived that students improved their academic performance during their co-taught year. Rea et al. (2002) also found that teachers perceived that students with disabilities had higher academic performance in co-taught classrooms. Similarly, Austin (2001) surveyed co-teachers' perceptions of co-teaching and found that they felt their students improved their academic performance.

Teachers and students in the current study also indicated that co-teaching contributed positively to student behaviors. These findings are supported by Walther-Thomas (1997), who reported that teachers and principals

perceived that students with disabilities had more appropriate behaviors in co-taught classrooms than they did in resource classrooms. Another districtwide co-teaching study also reported that students exhibited appropriate behaviors in co-taught classrooms (Eaton et al., 2004). One way to explain this finding is to consider the importance of "behavior models" from peers.

In spite of the positive perceptions shared by all three groups, some challenges and issues for co-teaching were revealed in the present study. Based on the results of the *Teachers' Perspective Survey*, most teachers valued a common weekly planning schedule during school hours. Teachers also believed that comprehensive planning, which includes content, evaluations, and other classroom issues (e.g., behavior management), are important for the success of co-teaching. Researchers have stated that communications between teachers are the key to developing parity in co-teaching (e.g., Eaton et al., 2004; Huber, 2005; Pugach & Johnson, 1995; Simpson, Whelan, & Zabel, 1993; Zigmond & Magiera, 2002). More specifically, the development of a co-planning routine provides teachers with the opportunity to share teaching expectations, methods, and instructional strategies, which is an essential part of effective co-teaching (Huber, 2005; Walther-Thomas & Bryant, 1996; Welch, 2000).

The results of the *Teachers' Perspective Survey* in this study indicated that both general and special education teachers viewed themselves as having more responsibility for behavioral management than the other. This prompts the question, if both teachers think they are primarily responsible for behavior management, is there a lack of understanding between the teachers about who is fulfilling this responsibility? The need for clarification of responsibilities among teachers also was expressed in Fennick and Liddy's (2001) study, which found that both general and special education co-teachers felt each had more responsibilities for instructional and behavioral management than the other. The lack of planning time could be a plausible explanation for why both teachers felt that they were primarily responsible for behavior management.

Outcomes for Students With Disabilities

The findings from student behavioral records were in contrast with findings of Rea et al. (2002), in which students with learning disabilities attended more school days when they were co-taught. In fact, students with disabilities in the current study had more absences during their co-taught year than in the previous year. The possible explanation for this increase was not determined in this study. These results should be further investigated in future studies. In addition, the student participants in this study

had more discipline referrals during their co-taught year. A relationship may exist—although it was not defined by this study—between the increase in student discipline referrals and the confusion of roles that the co-teachers reported. For example, results indicated that each group viewed itself as having more responsibilities for behavior management than the other group. This presents a phenomenon that might be considered “who’s on first?” In other words, if both teachers felt primarily responsible, then who was really responsible? Other contributory factors that may be explored in future studies include (a) the possibility of different standards of accepted behavior between co-taught classrooms and resource or self-contained classrooms, (b) the need for more co-teacher planning time to discuss disciplinary roles and behavior management strategies, and (c) the impact of the peer role model (general education) students in the behaviors of students with disabilities.

Differences, although not significant, also were found between teachers’ perspectives of students’ behaviors and the actual student behavioral records. According to the *Teacher’s Perspective Survey*, co-teachers reported improved behaviors in students. However, based on the students’ behavioral records, there is no evidence to support the teachers’ perceptions of improved behavior. In fact, actual behavioral records indicated quite the opposite. One plausible reason for these differences between perceptions and reality of students’ behaviors may be the fact that increased monitoring by two teachers in one classroom may have led to an increase in discipline referrals. In other words, “four eyes” watching students versus “two eyes” can catch more inappropriate behaviors. However, co-planning could address this issue if teachers developed behavior management plans and clarified their distinct roles and responsibilities. Further review of these referrals is needed to determine if the referrals are for particular students or across all students with disabilities in the co-taught classroom. Also, investigation is needed on the impact of appropriate planning time or the lack of it on discipline referrals associated with co-teaching.

The results of this study demonstrated that students with disabilities who had been co-taught for 1 year had significantly higher SAT NCEs in reading and math than they did before being co-taught. Furthermore, there were no significant differences in academic achievement found between student participants and all students at the same grade level as measured by SAT NCEs. These results suggest that the academic achievements of co-taught students with disabilities are as typical as the entire school system’s student population. Therefore, these results suggest that co-teaching, as an instructional approach, provides students with disabilities adequate support for their achievements on standardized tests.

Implications for Future Research

This study provides further evidence that co-teachers and students have positive perspectives of co-teaching. In addition to this finding, students with disabilities’ academic performances in some content areas improved 1 year after co-teaching. However, future research should investigate co-teaching efficacy with experimental and control groups to determine how co-teaching differs from other instructional delivery approaches. In addition, other studies should include individualized assessments to more specifically measure the efficacy of co-teaching for students with disabilities in content subjects.

In contrast to previous studies, this study found that students with disabilities in co-taught classrooms had increased discipline referrals and absences. The practical implications of these findings suggest that future research should investigate the factors that may contribute to increased behavior problems and absences (e.g., teacher behavior management responsibilities, planning time). This issue is particularly relevant to schools that have smaller staff size and limited resources. For example, if a special education teacher co-teaches with multiple general education teachers, it would make finding co-planning time difficult. Future research might determine the impact of the number of general education teachers with which a special education teacher can effectively co-teach. Also, this study only examined students with disabilities in co-taught classrooms. Examining the behavior of both students with disabilities and their peers without disabilities in co-taught classrooms could help determine if the significant differences in behavior before and after co-teaching also would occur in both populations.

All participants in this study perceived that students with disabilities received sufficient support in the co-taught classroom. Although these perceptions provide some indication of practices being conducted in the classroom, future studies should investigate the actual amount and degree of support provided to students with disabilities by teachers implementing co-teaching versus other instructional approaches. Investigating the actual support, rather than the perceived support, would be especially relevant considering that this study found significant differences among the participants’ perceptions of the support provided to students in co-taught classrooms.

Finally, future research studies should be conducted to determine if there are differences in other practices of co-teaching and what teachers perceive their co-teaching practices to be. Further investigation, for example, should be conducted to identify the effectiveness of different co-teaching models that are being implemented.

Knowing which models are most effective will provide practitioners with information on which models work best in co-taught classrooms.

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