Co-teaching: Equity for English Learners?

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This study adds to the current understanding of co-teaching in rural school systems, specifically its use to equitably serve the needs of English learners (ELs). The authors investigated one western U.S. rural district's implementation of a co-teaching model where general-classroom teachers shared teaching responsibilities with an English as a second language teacher in a secondary school setting. Research has long shown that traditional pullout models for teaching ELs are less effective because there is often a disconnect between what is happening in the mainstream classroom and in the pullout placement. This quantitative study included observations of 20 co-taught classes during 400 minutes of classroom instruction to measure fidelity to the district's co-teaching model. This article details the extent to which teachers used specific co-teaching strategies and reports on the quantity of teacher-student interactions in general and relative to ELs and non-ELs. Observations revealed that EL students worked primarily with the language specialist, and most of those interactions took place in the context of individualized support. These results have implications regarding equity and opportunity to learn academic content for both EL and non-EL students.

Keywords: co-teaching, English Learners, equity, rural education

Given the rich immigration history in the United States, English learners (ELs) have always been present in U.S. schools. Before the 1974 Supreme Court decision in *Lau v. Nichols*, they were most often simply placed in general education classrooms without linguistic support. The *Lau* decision changed the mandate related to EL students, ruling that the failure of the San Francisco school system to provide English language instruction to approximately 1,800 students of Chinese ancestry who do not speak English, or to provide them with other adequate instructional procedures, denies them a meaningful opportunity to participate in the public educational program and thus violates § 601 of the Civil Rights Act of 1964, which bans discrimination based "on the ground of race, color, or national origin." (*Lau v. Nichols*, 1974, p. 563)

The reauthorizations of the Elementary and Secondary Education Act of 1965 (ESEA) in 2001 and 2015 (Every Student Succeeds Act [ESSA], 2015) continued to emphasize the mandate for schools to ensure equity and access to underserved groups and required schools to meet rigorous college and career readiness standards across content areas for all students. The latest revision of the act, now known as Every Student Succeeds Act (ESSA), created several new requirements for EL equity, most notably in relation to schools. In addition to addressing English proficiency rates under Title III, schools had to include the EL student population in their accountability framework for Title I, resulting in a much broader impact on schools and funding. Under ESSA, schools could not receive a high rating if one of their subgroups is failing across the board—which is often the case with ELs.

Since the *Lau* decision ruled that the immersion approach was illegal, school districts have adopted a variety of models to provide language supports for ELs (Theoharis & O'Toole, 2011). The dominant teaching models for ELs across the nation have involved pullout and sheltered instruction, in which students are separated from the general education classroom to meet with a language specialist (DeFrance Schmidt, 2008). In *Options for English Language Learners*, the American Association of School Administrators (2008) discussed these two approaches. In pullout English as a second language (ESL) programs, ELs are pulled out of mainstream classrooms to receive instruction in English from an ESL teacher. Push-in ESL programs, on the other hand, "push" the ESL teacher into the regular classroom to provide language instruction to designated groups of EL students. In both pullout and push-in models, ESL instruction is intended to develop English language and communication skills. In subjects not supported by the ESL teacher, EL students are fully integrated into mainstream classrooms with little to no support. In sheltered instruction programs, ELs are grouped in EL-only classes for one or several periods per day. The intention is to provide content-area instruction and develop English fluency while "sheltering" ELs from the need to compete with English speakers.

While pullout, push-in, and sheltered approaches support the linguistic needs of ELs, they often separate ELs from their English speaking peers by creating a parallel education separate from the regular educational path of non-EL students. Theoharis and O'Toole (2011) explored using an inclusive philosophy for ELs and suggested that "including ELLs [English language learners] in the general classroom has the potential to provide these learners equitable access to resources, curricula, and services" (p. 653).

This study explores the use of co-teaching, defined as "two or more professionals delivering substantive instruction to a diverse or blended group of students in a single space" (Cook & Friend, 1995, p. 2), to serve the language needs of EL students in several secondary general education classrooms in a rural school district.
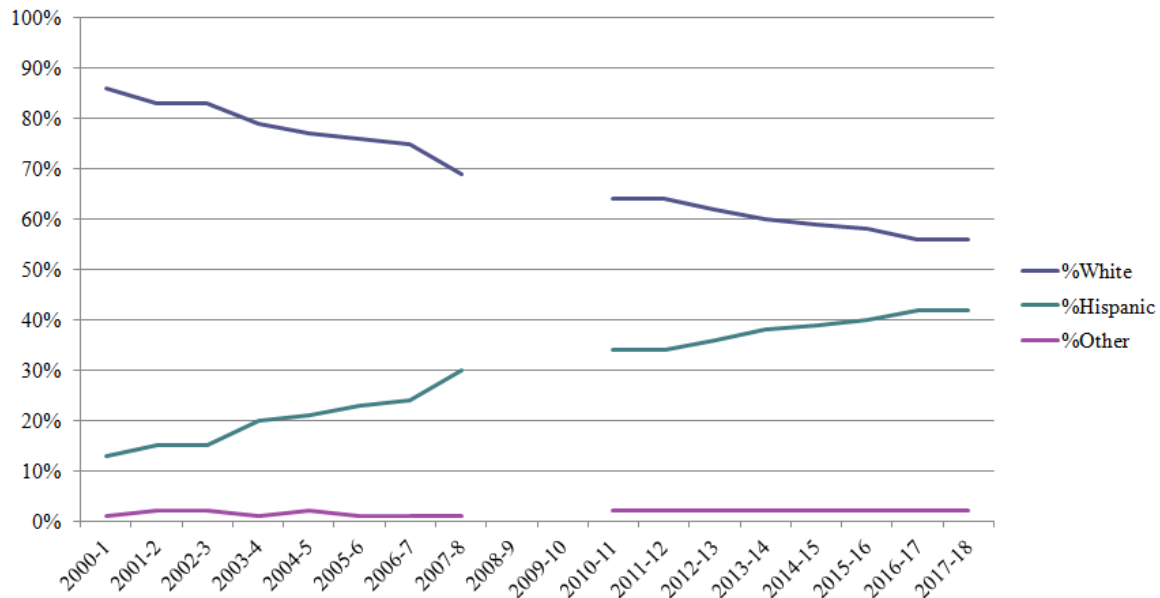
Figure 1. Enrollment trend by ethnicity of study district, 2000–2018. Data from National Center for Education Statistics (2018). Accurate data were not available for 2008–2010 and thus were omitted.

Local Context

Most official definitions of *rural* are based on data and designations assigned by the U.S. Census Bureau (Ratcliffe, Burd, Holder, & Fields, 2016), including population thresholds, density, land use, and distance. The population density of the school district in this study is eight people per square mile. Although most rural schools have a low number of EL students, over 44% of America's EL students live in rural communities (Cummins, 2001). It can be challenging for rural schools to ensure EL students are not marginalized and have opportunities to reach to high academic standards due to limited financial and human resources.

Because schools in rural settings and communities use a variety of contexts and condition to provide for ELs, our study focused on the implementation of co-teaching strategies as adopted in one rural school district, and the issue of equity for EL students relating to specific teacher-student interactions. In the school district where this study took place, the demographic composition of students had shifted considerably, consistent with much of the United States (National Center for Education Statistics, 2018). In the 2000–2001 school year, approximately 86% of the district's students were White and 13% were Hispanic. In contrast, in the 2017–2018 school year the student body reflected much greater diversity, with 56% of the students White and 42% Hispanic (see Figure 1).

Based on indicators of student achievement, the district consistently scores at or above the state proficiency levels in all areas tested on the state's standardized assessments (Table 1). Despite this, gaps between the district's EL students and non-EL students are significantly larger than those at the state level. Before 2014 all secondary students identified as beginning and intermediate ELs were placed in an ESL classroom for language arts and mathematics classes. The students accessed other content area classes with support from an ESL paraprofessional.

Table 1

State standardized assessment for 2018

	English language arts	Math	Science
Study district	58.90%	44.71%	61.86%
State	53.69%	43.69%	60.65%

In 2014 the district adopted co-teaching as a practice to address long-standing and pronounced achievement gaps between EL and non-EL students. Since then the implementation of co-teaching has expanded and replaced pullout and sheltered environments for ELs at the secondary level, with the exception of newcomers, who take a newcomer-specific class for a portion of each day. In co-taught classes, ELs are clustered in regular-education classrooms and taught the grade-level curriculum while an English language specialist (SPEC) partners with a content area teacher (CAT) in all aspects of the instructional process.

The purpose of the study was to examine how co-teaching for EL students was being implemented in secondary classrooms located within the school district. In consideration of evolving challenges brought on by federal, state, and local policy demands to improve the academic achievement of EL students, we addressed two main questions:

1. To what extent are the co-teaching practices adopted by the school district being implemented in everyday instruction by co-teachers in secondary classrooms?

2. Do ELs in co-taught classes interact with the general education content teacher to the same degree as their non-EL peers?

Literature Review

We situated our study within the literature regarding co-teaching for ELs and equity to academic content, including opportunity to learn. In support of our analysis, we used co-teaching as a theoretical framework to understand how co-teaching practices were implemented across

secondary schools in one district and how conditions within co-taught classrooms impacted the student-teacher interactions for EL and non-EL students.

Co-teaching for English Learners

Co-teaching, simply stated by Hattie (2008), "is two teachers working in a single space to deliver instruction" (p. 219). The co-teaching model gained popularity in the 1960s and has its roots in special education, where it was used to increase students' access to the general education curriculum through collaboration between a CAT and a SPEC (Burley, 2015). In the absence of co-teaching, EL students are often served in specialized ESL- or EL-only classrooms or resource rooms, based on pullout or sheltered models.

While there are several accepted models describing the various roles that co-teachers assume, this study uses the model advanced by Villa, Thousand, and Nevin (2013):

- Supportive co-teaching: one teacher takes the lead instructional role, and the other rotates among the students to provide support.

- Parallel co-teaching: the co-teachers teach, monitor, or facilitate the learning of different groups of students, usually in the same room at the same time.

- Complementary co-teaching: one co-teacher acts to enhance the instruction provided by the other co-teacher(s).

- Team teaching: co-teachers simultaneously deliver the lessons. Team teaching was further categorized as co-teachers simultaneously delivering the lesson (team-delivery) versus rotating among the students and provided tutorial support (team-supportive).

Adherents of the co-teaching methodology point to several benefits of co-teaching. Because there are two teachers in a classroom, co-teaching lowers the student-teacher ratio and thereby allows greater interaction between students and teachers. It also increases collegiality between teachers and exposes them to a wider range of philosophies, techniques, and methods (Abdallah, 2009). In this study, the teachers all worked for the same school district, which adopted the co-teaching strategies as defined by Villa et al. (2013) as supportive, parallel, complementary, and team teaching. Previous research on co-teaching at the secondary level (Kozik, Cooney, Vinciguerra, Gradel, & Black, 2009; Simmons & Magiera, 2007) suggests the model may be challenging depending on content knowledge of the teachers, insufficient collaboration time, and increased accountability pressures.

A number of factors must be considered if collaboration between SPECs and CATs is to be effective. Villa et al. (2013) identified five essential elements of co-teaching: (a) common, agreed upon goals; (b) a shared belief system; (c) parity between the teachers; (d) distribution of the work of teaching; and (e) use of a cooperative process. Davison (2006) argues that, without clear roles and responsibilities between SPECs and CATs, ESL is often subordinated to the content area, leading to an imbalance between teachers in curriculum authority, responsibility, and opportunities for input. In light of the multiple factors that influence co-teaching partnerships, research indicates that co-teachers must agree on all aspects of the classroom environment, including instructional methodology, classroom discipline, and their respective roles during instruction. To this end, co-planning is imperative for co-teaching to be effective (Abdallah, 2009; Honingfeld & Dove, 2010; Murawski, 2012). According to Honingfeld and Dove (2010),

> Co-planning is undeniably the most important component of the collaborative instructional cycle. Co-teaching does not happen without it, so when teams of teachers enter a classroom without ample preparation, it may at best be described as shared real estate. The success of any true co-teaching practice depends on the success of co-planning. (p. 25)

Equal Access for Academic Content for English Learners

In addressing social justice concerns in educational programs, Frattura and Topinka (2006) found that homogeneously grouping students who are not representative of the norm into separate classrooms is emotionally and socially damaging.

They contend that separate programs marginalize students, are expensive, label children, and are disruptive to the students' academic day by requiring them to leave a class to receive specialized help and often denying them access to academic opportunities. Theoharis and O' Toole (2011) found that separate programming may also create the illusion that ELs' learning needs have been adequately addressed during the time they spend with the SPEC.

Removing students from the subject-area curriculum to provide language instruction requires them to continually sacrifice one area of their education in favor of another and thereby detracts from students' opportunity to learn. Banicky (2000) states that opportunity to learn is a greater consideration than simply ensuring students have access to taught curriculum and includes providing appropriate learning opportunities, resources, school conditions, and teacher quality for all groups of students. Of all school-level factors, opportunity to learn, though difficult to define, has the strongest relationship to student achievement (Marzano, 2001). Research suggests that ELs are more likely than their peers to be taught by teachers who are less qualified, without appropriate teaching credentials, or with little classroom experience (Gándara, Maxwell-Jolly, & Driscoll, 2005; Rumberger & Gándara, 2004).

Many researchers also suggest that moving away from a pullout model and keeping ELs in general education classrooms with linguistic support may reduce the marginalization of EL students and increase their access to curriculum and services (Theoharis & O'Toole, 2011). The term *inclusion* originated in the special education research and literature. The concept of inclusion has recently been more broadly adopted and applied to students in other underserved populations, including ELs. Moving to a co-teaching model typically removes traditional supports for EL students (i.e., pullout instruction by designated ESL teachers, paraprofessional support, and homogeneous grouping with other EL students) and shifts the responsibility for supporting ELs to all teachers instead of primarily relying on designated ESL teachers.

Methods

To address the research questions, we used a quantitative study design (Creswell & Creswell, 2018). This study reports on the observation data and frequencies of co-teaching strategies used in a rural school district and types of interactions (i.e., whether the interaction was public or private). Twenty different co-taught classes, 10 high school and 10 middle school, were observed for a total of 400 minutes. The observations were conducted at one middle school and one high school in the same district, to reduce school-based factors that might cause variation in the implementation. These schools were selected because they contained the largest populations of EL students in the district. Observations were conducted by a single observer over a 6-week period. The observer had previous training in the district's co-teaching model and also as a school administrator.

Table 2 lists the characteristics of the teacher participants. The study included 16 total teachers, 10 CATs and 6 SPECs; because four of the SPECs paired with two different CATs, 10 co-teaching pairs were observed in this study: 5 at the middle school and 5 at the high school. Teachers were recruited to participate in the study if they were part of a co-teaching classroom, and each teacher gave consent to participate in the study. Additionally, 75% of SPECs had a master's degree versus 50% of CATs. Approximately 33% of the SPECs reported having endorsements in the content areas in which they co-taught. SPECs fell at both ends of the experience range, with 50% reporting 2 or fewer years and 50% reporting more than 10 years.

According to this district's model, general education teachers in a variety of subject areas were paired with SPECs to plan and deliver academic content in co-taught classes. The observed content-area classrooms were science, mathematics, and English/language arts. The district provided these teams with 16.5 hours of training distributed between September and March, which emphasized the four co-teaching approaches defined by Villa et al. (2013):

Table 2

*Professional characteristics of co-teacher pairs as participants (*n = 12*)*

Characteristic	Percent
Licensure	
Licensed for content area	62.5
Licensed to teach ESL	75.0
Highest degree obtained	
Bachelor's	50.0
Master's	50.0
Total experience	
<1 year	8.0
1–4 years	25.0
4–10 years	25.0
>10 years	42.0

supportive, parallel, complementary, and team teaching. Our observations were scheduled a month in advance, and data were collected over a 6-week period during January and February. Each co-teaching pair was observed in two different class sections for a total of 20 unique observations. Each observation segment was at least 20 minutes long. A coding procedure and observation protocol were created and tested prior to use in this study.

Table 3 provides a breakdown of student demographics per class observed. A total of 398 students were observed over the 20 co-taught classes. The average enrollment of the classes was 20 students per class, ranging from 12 to 25 students. Seventeen students (4.3%) were identified as L1 (first-year language learners in their first year in a U.S. school);

Table 3

Student demographics in co-taught classes

Class no.	*n*	L1	LE	L1 + LE	Non-EL	SWD	M	F	State Prof	Avg WIDA score
1	15	0%	47%	47%	53%	29%	35%	65%	38%	4.0
2	23	13%	39%	52%	61%	9%	52%	48%	55%	3.5
3	22	0%	46%	46%	55%	4%	52%	48%	42%	3.9
4	23	17%	35%	52%	65%	4%	64%	36%	47%	3.0
5	14	0%	43%	43%	57%	17%	50%	50%	75%	3.5
6	17	12%	29%	41%	71%	11%	63%	37%	71%	3.0
7	17	0%	41%	41%	59%	18%	59%	41%	56%	4.0
8	19	11%	58%	68%	42%	10%	52%	48%	42%	3.5
9	22	5%	9%	14%	91%	0%	50%	50%	61%	4.1
10	23	0%	13%	13%	87%	17%	58%	42%	65%	2.9
11	15	0%	40%	40%	60%	6%	63%	38%	38%	4.4
12	19	0%	21%	21%	79%	5%	42%	58%	56%	4.3
13	23	0%	30%	30%	70%	29%	54%	46%	55%	4.5
14	19	11%	21%	32%	79%	5%	32%	68%	38%	4.3
15	25	0%	20%	20%	80%	0%	48%	52%	33%	4.1
16	20	0%	30%	30%	70%	10%	50%	50%	39%	3.5
17	25	0%	28%	28%	72%	7%	56%	44%	60%	3.5
18	22	0%	23%	23%	77%	13%	57%	43%	50%	3.9
19	24	4%	17%	21%	83%	0%	75%	25%	64%	3.8
20	22	5%	32%	36%	68%	4%	46%	54%	38%	3.9
High	25	17%	58%	68%	91%	29%	75%	68%	75%	4.5
Median	22	0%	30%	34%	70%	8%	52%	48%	53%	3.9
Low	14	0%	9%	13%	42%	0%	32%	25%	33%	2.9

n = total number of students in the class; L1 =

125 students (31.4%) were identified as limited English (LE) and spoke a language other than English as part of their history or home environment, which may affect their learning in an English-based environment. LE students also scored less than 5.0 overall on the WIDA ACCESS assessment and less than 4.0 in each of the test's four domains (listening, speaking, reading, writing). The WIDA ACCESS test is an English-language proficiency assessment given to new students in grades 1–12 to help educators identify whether they are ELs. It is a "flexible, on-demand assessment that can be administered at any time during the school year" (Wisconsin Center for Education Research, 2019, para. 1). Once a student met the exit criteria on the WIDA ACCESS (5.0+ overall, 4.0+ in each of the four domains), the school transitioned them to monitoring status. This study did not consider EL students who were currently in monitoring status. percentage of students categorized as first-year language learners in their first year in a U.S. school; LE = percentage of students categorized as limited English; non-EL = percentage of students who were not English learners; SWD = percentage of students with disabilities; M and F = percentage of male and female students; State Prof = percentage of students who scored proficient or higher on the state's standardized achievement test; Avg WIDA = average WIDA score for the class.

Frequency of Co-teaching Approach

To determine the frequencies of various approved co-teaching approaches, we used a partial interval time sampling method (Harrop & Daniels, 1986) to document the presence of observable co-teaching strategies that occurred within a 1-minute interval. A timer was used throughout each observation. Co-teaching strategies were coded on the observation protocol according to the model used by the district (supportive, parallel, complementary, or team co-teaching) as they occurred during the 1-minute interval; therefore, multiple strategies could be coded during the same 1-minute interval. For the purposes of this study, co-teaching was further categorized as team supportive, or team delivery. The role played by the respective teachers was also noted (i.e., supportive, team, or both). The observation instrument collected data on the four specific co-teaching strategies adopted by the district. Instances in which no instruction occurred were not coded.

Teacher-Student Interactions

While identifying which co-teaching strategies teachers used, the observer created a framework to code four different types of teacher-student interactions observed, in which the CAT or SPEC called on a student publicly or interacted personally in an individualized and private manner. All specific interactions with students were recorded, whether they were of an academic nature or not. General questions and comments addressed to the whole class were not recorded unless the teacher called on or responded to an individual student. Interactions between the CAT and SPEC were not recorded, nor were interactions among students.

Data Analysis

The observations yielded 415 total incidents of co-teaching practices and 694 total teacher-student interactions. After completing all classroom observations, we used Excel to record and analyze frequency counts of co-teaching strategies and teacher-student interactions. The total number of incidents in which each co-teaching strategy was observed across all intervals was divided by the total number of intervals (400) to determine percentage of intervals in which the strategy was observed.

To fully consider the overall equity of teacher-student interactions, data were analyzed for the frequency of student-teacher interactions and the extent to which each teacher's interactions with students were public or private. To calculate the frequency of student-teacher interactions, we determined the percentage of teacher interactions with EL students for each class and then calculated the ratio of percent EL interactions to percent EL students in the class. In the resulting scatter plot graphs, the reference lines indicate the percent EL students in the class, and percent interactions reflect higher, equal, or lower frequencies than that percentage. Data were
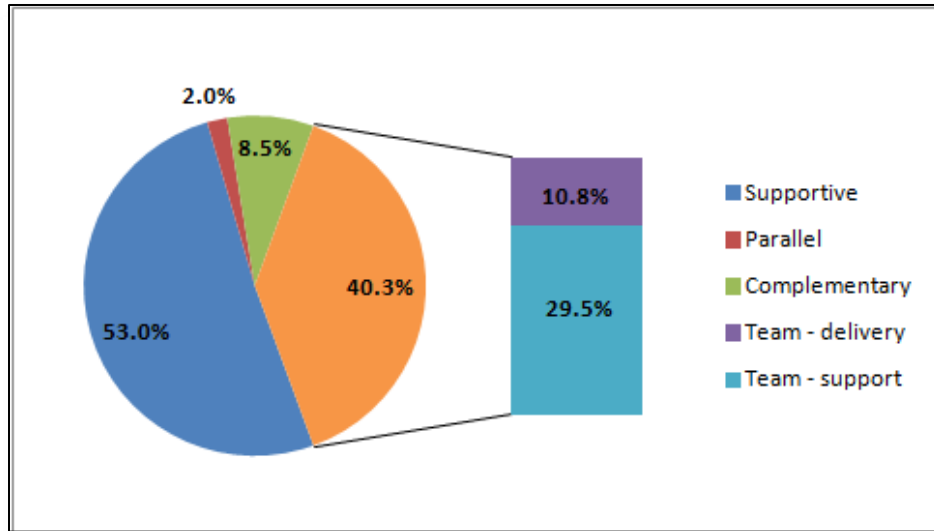
Figure 2. Percentages of intervals in which district-specified co-teaching strategies were observed

further analyzed to determine percentages of both SPEC and CAT interactions with L1, LE, and non-EL students, both publicly or personally.

Findings

Our study aimed to determine (a) the extent to which the co-teaching practices adopted by the school district were being implemented in everyday instruction by co-teachers in secondary classrooms, and (b) whether ELs in co-taught classes interacted with the CAT to the same degree as their non-EL peers.

Frequency of Co-teaching Strategies

The CAT delivered whole-class instruction during 78.2% of the 298 intervals in which whole-class instruction occurred, and during more intervals that involved whole-class instruction than the SPEC in 15 of 20 classes that involved whole class instruction. The SPEC, on the other hand, delivered whole class instruction during 21.8% of the intervals.

Co-teachers emphasized the use of the supportive co-teaching approach in 53% of observed intervals and team co-teaching in 40.3% (see Figure 2). The SPEC assumed the supporting role during 92.5% of the intervals in which the supportive co-teaching strategy was observed (see Figure 3). Given that 80% of the co-teaching pairs were in their first year working together, this is not

altogether unexpected—supportive co-teaching is one of the two strategies relied on the most by new co-teaching pairs (Villa et al., 2013). However, with such a high percentage of first-year co-teaching pairs, it was not possible to determine with any validity whether the frequency of particular strategies correlated with pair longevity.

Team co-teaching in the team-delivery form occurred in 10.1% of observed intervals. Co-teaching partners engaged in team-delivery for five or more intervals in only three observations. Team co-teaching in the team-support form, which closely resembles supportive co-teaching, was present in 29.5% of observed intervals and was observed during 75% of observation periods.
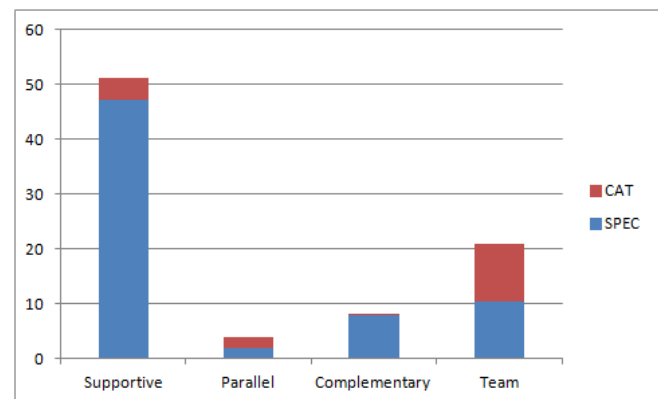

Figure 3. Relative percentages of observed co-teaching strategies by teacher type

Teacher-Student Interactions

Placing EL students in content-area classes with embedded language support is intended to provide them with greater access to the subject matter than they may experience when placed in pullout environments. We examined whether EL students in co-taught, mainstream classes accessed the CAT at the same rate as their non-EL peers.

Frequency of Interactions. Overall, CATs interacted with students more often than did SPECs, with 56.2% of total interactions. However, the frequency of interactions among teachers and student groups varied across classrooms. In 10% of the 20 observed classrooms, frequencies of teacher interactions with EL students were equal to their representation within the class; in 60%, they exceeded the classroom percentage, and in 30% they occurred at a lower rate. Thus, 70% of the observed co-taught classes offered support for EL students at equal or greater frequency than their portion of the class population (see Figure 4).

L1 students comprised 4.3% of the total number of observed students and participated in 3.7% of the total interactions. In terms of the frequency of their interactions with a teacher, this group appeared to receive slightly less opportunity than other student groups. L1 students were served primarily by the SPEC, who was involved in 76.9% of the interactions with L1 students. Interactions between SPECs and L1 students represented 6.6% of the SPECs' total interactions with involved in 76.9% of the interactions with L1 students. Interactions between SPECs and L1 students represented 6.6% of the SPECs' total interactions with students, a higher rate than the L1 students' percentage of the student group. CATs interacted with L1 students only six times in total, representing 1.5% of CATs' total student interactions and 0.9% of the overall number of teacher-student interactions.
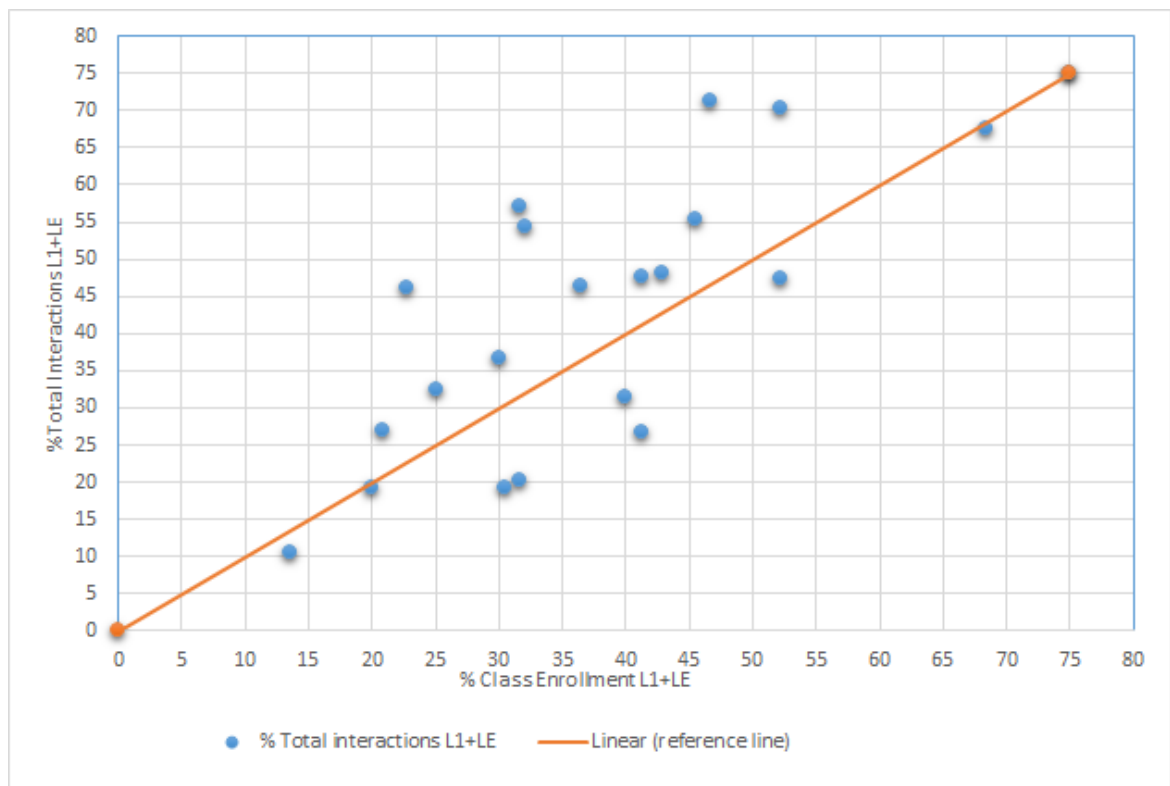

Figure 4. Percent interactions between teachers and EL students by percentage of EL enrollment in the class

LE students comprised 31.4% of the total number of observed students. Teachers interacted with LE students a total of 254 times, representing 36.6% of teacher-student interactions. Interactions between LE students and CATs accounted for 44.1% of interactions between LE students and a teacher. CATs interacted with LE students during 28.1% of their teacher-student interactions, a lower frequency than the LE students' portion of the student population (34.1%). SPECs' interactions with LE students accounted for 55.9% of the total number of interactions between a teacher and an LE student and 46.7% of SPECs' total interactions with students. Overall, LE students interacted with teachers at a greater frequency than their percentage of the student population, and these interactions occurred mostly between the SPEC and the LE students.

Non-EL students comprised the largest student group in the observed classes. Overall, these students interacted with teachers at a lower frequency than their percentage of the student population, comprising 64.3% of observed students and receiving 59.7% of the total teacher-student interactions. CATs interacted with non-EL students

in 69.7% of their total interactions with students, a higher rate than the non-ELs' portion of observed students. Exchanges between the SPECs and non-EL students represented 20.5% of the total number of teacher-student interactions and 46.7% of the SPECs' total communications with students.

Public Versus Personal Interactions. CATs' exchanges with students were more likely to revolve around the teacher calling on or calling out to the student during whole class instruction in a public manner. As Figure 5 shows, CATs publicly connected with students during 57.4% of their total communications, whereas 42.6% of their interactions were more personal, working alongside the student at their desk to provide feedback, to ask or answer an individualized question, or to provide tutorial assistance. SPECs, on the other hand, generally communicated with students in a more personal manner. Of the 304 documented interactions between SPECs and students, 78.3% were personal. This distribution of public versus personal interactions is consistent with the supportive and the team-support co-teaching strategies predominantly used by co-teaching pairs.
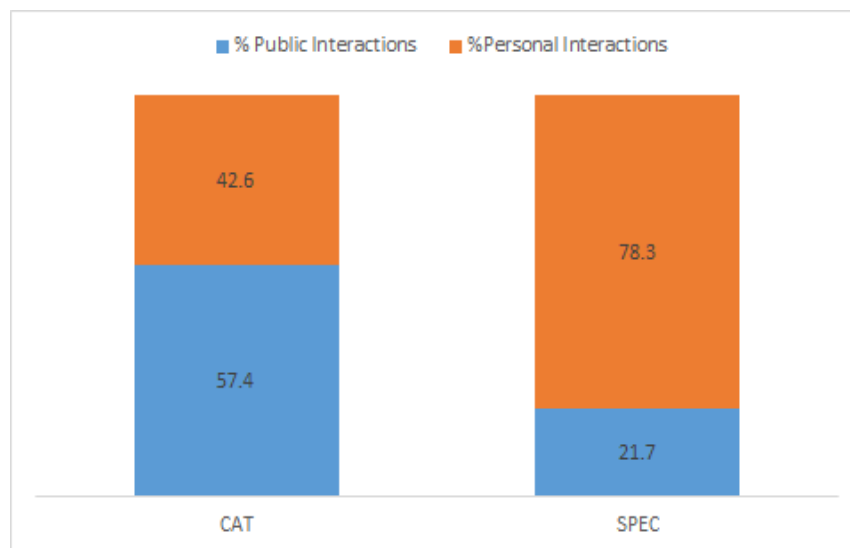

Figure 5. Percentage of public and personal interactions by teacher type

Teacher interactions with EL students were, in general, more likely to be personal (see Figure 6), comprising 85% of SPECs' interactions with L1 students and four of the six interactions between CATs and L1 students. On the whole, teachers tended to interact with LE students in a personal way, as well. Most interactions between CATs and LE students (55.4%) were personal, and SPECs interacted personally in 85.9% of their interactions with LE students.

Teachers interacted with non-EL students in a more balanced manner overall, with about half of their interactions (51.9%) being public. In comparison, teachers interacted publicly with EL students during 26.8% of their interactions with EL students. CATs interacted publicly during 63.2% of their interactions with non-EL students versus 44.1% of their interactions with EL students. Of SPECs' interactions with students in the non-EL group, 69.7% were personal. Though this overall pattern varied across classes (see Table 4), in general CATs were more likely to engage publicly with non-EL than with EL students.
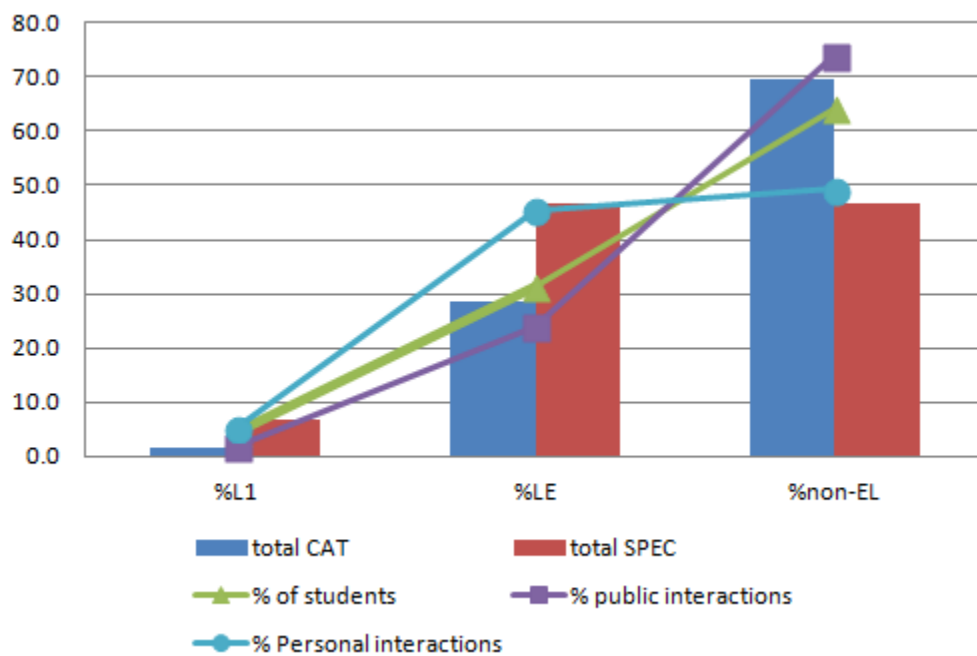

Figure 6. Percentage of teacher interactions by student group

Table 4

Teacher-student interactions

Class No.	EL students (%)					Non-EL students (%)				
	Class	CAT Public	Personal	SPEC Public	Personal	Class	CAT Public	Personal	SPEC Public	Personal
1	46.7	3.6	28.6	0	39.3	53.3	3.6	17.9	0	7.1
2	52.2	3.7	0	0	66.7	47.6	22.2	0	0	7.4
3	45.5	19.6	7.1	16.1	12.5	54.5	8.9	8.9	12.5	14.3
4	52.2	10.9	16.4	5.5	14.5	47.8	18.2	12.7	7.3	14.5
5	42.9	0	18.5	0	29.6	57.1	0	29.6	14.8	7.4
6	41.2	0	28.6	0	19	58.8	0	38.1	0	14.3
7	41.2	6.7	6.7	6.7	6.7	58.8	0	26.7	20	26.7
8	68.4	8.8	32.4	2.9	23.5	31.6	5.9	8.8	11.8	5.9
9	13.6	8.5	2.1	0	0	86.4	40.4	17	0	31.9
10	25	5.4	5.4	0	21.6	75	24.3	29.7	0	13.5
11	40	15.8	0	0	15.8	60	63.2	5.3	0	0
12	31.6	7.1	14.3	0	35.7	68.4	14.3	14.3	0	14.3
13	30.4	12.9	0	0	6.5	69.6	74.2	0	3.2	3.2
14	31.6	3.7	7.4	0	9.3	68.4	42.6	18.5	1.9	16.7
15	20	5.8	0	3.8	9.6	80	36.5	19.2	7.7	17.3
16	30	2	4.1	2	28.6	70	36.7	10.2	4.1	12.2
17	32	13	6.5	4.3	30.4	68	21.7	19.6	0	4.3
18	22.7	7.7	0	23.1	15.4	77.3	7.7	0	46.2	0
19	20.8	0	11.5	0	15.4	79.2	23.1	0	15.4	34.6
20	36.4	4.7	11.6	2.3	27.9	63.6	14	9.3	7	23.3
Avg.	36.2	7.0	10.1	3.3	21.4	63.8	22.9	14.3	7.6	13.4
High	68.4	19.6	32.4	23.1	66.7	86.4	74.2	38.1	46.2	34.6
Median	34.2	6.25	6.9	0	17.4	65.8	19.95	13.5	3.65	13.9
Low	13.6	0	0	0	0	31.6	0	0	0	0

Discussion

This study explored the extent to which co-teaching approaches defined by the district are being implemented in everyday instruction by co-teachers in secondary schools. The study also examined the extent to which ELs in co-taught classes accessed the general education CAT compared to their non-EL peers.

Co-Teaching Strategies

Across the range of classroom observations, co-teachers limited themselves to two primary co-teaching strategies: supportive co-teaching, present in over half of the observed intervals, and team-supporting co-teaching, in which both teachers rotated among the students and provided individual assistance. In total, co-teachers used one of these two strategies during 82.5% of observed intervals.

In the vast majority of these intervals, the SPEC played the supportive role.

One possible explanation for the reliance on supportive and the team-supportive teaching approaches lies in the SPECs' level of expertise. At the secondary level, course content is complex and requires a fairly high level of skill and understanding to teach effectively. Given that SPECs pair with CATs in a variety of subject areas, especially when considered in light of the overall newness of their partnerships, it would be natural for SPECs to play a role. An area for further research is the degree to which the longevity of the partnership allows the SPECs to shift into a more equal role in delivering instruction. This study looked at only a 6-week period; perhaps future studies could longitudinally study how the quality and frequency of teacher-

student interactions change over time in co-teaching settings.

Both supportive and team-supportive co-teaching strategies have a lower planning threshold to successfully implement. Only 30.0% of the individual teachers reported spending more than 2 hours a week planning for co-teaching. Training related to co-planning is a critical next step in this district's implementation journey. The amount of time available in individual co-teachers' schedules is a possible variable and represents a question for further study. The use of time by co-teachers is also a significant question. On the whole, however, based on both the strategies most commonly used by co-teachers and the distribution of student interactions among the co-teachers, this study recommends that schools review the time dedicated to co-planning and provide training and coaching related to effective co-planning.

The longevity of teams is also a critical issue contributing to this pattern. Despite the district's previous experience in implementing co-teaching, most of the teams (80%) at the secondary level were in their first year of co-teaching together, and 56.3% of the individual co-teachers were in their first year of co-teaching. Twenty-five percent of individual co-teachers had previously co-taught with different partners, and only 18.8% had taught more than one year with the same partner. This high turnover rate suggests schools may need to consider how they recruit individual teachers and how they support them after the co-teaching partnership forms.

Teacher-Student Interactions

In describing the ideal of what a co-taught classroom looks like, Villa et al. (2013) explains that "co-teaching is two or more people sharing responsibility for teaching all of the students assigned to a classroom. It involves the distribution of responsibility among people for planning, differentiating instruction, and monitoring progress for a classroom of students" (p. 4). According to this definition, in co-taught classrooms both teachers would share responsibility for all of the learners in the room. Taken as a whole, during the 400 minutes of classroom observation in this study, several notable patterns emerged regarding teacher

interactions with EL students. Bearing in mind that there is considerable variation in the quantity and personal/public nature of teacher-student interactions across the classrooms observed, in general EL students were more likely to interact with their teachers at a greater rate than their portion of the student population. This implies that EL students were the beneficiaries of additional support in their co-taught classes.

The source of EL students' support, however, was not equal between SPECs and CATs. Despite individual classroom variations, overall CATs tended to interact with non-EL students at a disproportionately greater rate than with EL students. Additionally, CATs interacted with LE students at a rate less than the LE students' percentage of the student population. Conversely, SPECs' interactions with EL students were disproportionately greater than the ELs' percentage of the student population.

Comparing CATs' and SPECs' interactions with EL and non-EL students is also revealing. Overall, teachers called on EL students to respond in a public manner less frequently than they did their non-EL peers, opting instead to help EL students individually at their desks. The data suggest that EL students had less opportunity to participate in whole-class interactions.

Conclusions and Implications

In most of the classroom observations in this study, teachers relied on a teacher-centered, whole-class instructional model that was dominated by the CAT, while the SPEC rotated and supported students individually. Additionally, EL students interacted primarily with the SPEC in private conversations at their desks, while CATs' interactions focused mainly on non-EL students. To promote access to the CAT and therefore increase the opportunity for EL students to learn, teachers need additional explicit training in a variety of topics: (a) effective co-planning, (b) effective instructional practices for ELs, (c) the CATs' and SPECs' role in supporting all students during the instructional process, and (d) the full range of co-teaching strategies. Furthermore, to promote long-term partnerships, co-teaching pairs need support

related to skills associated with developing co-teaching relationships.

Though more research is needed related to co-teaching, the underlying logic of the model, in which two teachers work within a collaborative partnership, is promising for promoting access to core academic curriculum for ELs. Findings from this study indicate that the current implementation of co-teaching policies related to EL students may need additional development for co-teaching to reach its full potential.

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