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Schools have been searching for ways to provide ELLs with access to content, and thus have begun to use coteaching between ESL teachers and general education teachers. The purpose of this study was to determine the attitudes of teachers in the St. Paul Public Schools toward ESL/general education coteaching, and to determine which factors impact these attitudes. A stratified random sample of ESL teachers and general education teachers was selected; 37 general education teachers and 58 ESL teachers completed the web-based survey. Regression analysis was performed to determine which factors correlate to coteaching attitudes, and qualitative data from open-response questions was examined. Results suggest a majority of teachers held attitudes positive toward coteaching. Teachers who have cotaught longer tend to hold more positive attitudes toward coteaching, as do teachers with more teaching credentials. There was no difference between ESL teachers and general educators in their attitudes toward coteaching.

THE POWER OF COTEACHING: PREDICTORS OF ATTITUDES ON
ELEMENTARY ESL/GENERAL EDUCATION COTEACHING

By

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CHAPTER ONE: INTRODUCTION

Coteaching, where two teachers share the instruction for a group of students, for the planning and execution of instruction (Hourcade & Bauwens, 1995, reported in Friend & Bursuck, 1999), is something I began in the first moments of my teaching career. I believe in the power of coteaching, and I prefer collaborative work. Even with this propensity, it took me nine years of trial and error to begin to fully understand the approach.

My early experience in coteaching was as an undergraduate on a study abroad internship in Bogotá, Colombia, where I taught English to former street children. I was paired with Mariah, an undergraduate student from another Minnesota college. We taught together each day of our internship, but our work can be called coteaching only using the most superficial of definitions. I read

educational research, planned lessons, and evaluated students by myself. The scale was not balanced. This was not true coteaching.

This year, after nine years of attempts, I am more sophisticated in my coteaching strategies. In my district, all English as a Second Language (ESL) instruction is co-taught with general education teachers in the classroom. I co-plan weekly with my co-teachers, and we attend the same trainings. We alternate roles in the classroom, evaluate students together, and reflect on our coteaching relationship. Coteaching with classroom teachers, and the resulting improvement in academic English in my English Language Learners

(ELLs) is very rewarding. Besides the personal rewards, I believe it is a best practice for educating ELLs. Leaders at my district advocated coteaching with infectious enthusiasm and charisma. Coteaching was identified as the cause of recent successes with ELLs in my district, Saint Paul Public Schools (SPPS), an urban, midwestern school district (Walsh, 2006). Cornell (1995) cites ESL coteaching as a promising way to reduce the ELL/non-ELL achievement gap.

Despite my successes and trust in my district's model, I have experienced daily frustrations, fueling my desire to study coteaching for my Capstone. At the time I selected my Capstone topic, my frustrations involved the reality of coteaching with six teachers. I was left to fit six hours of daily instruction to fit into five hours, and eight hours of weekly co-planning and meetings to fit into five hours. This lack of time yielded concerns that I was not efficiently supporting ELLs, and inspired me to begin a study that might find strategies that would overcome these barriers.

My study of coteaching was fueled by daily frustrations, but my study uncovered a secret: despite the 'buzz' around coteaching, there is insufficient research documenting these endeavors (Murawski, Swanson, & Swanson, 2001). Some limited research exists on coteaching in Canada, England, and Australia; even fewer studies exist which address the issue of coteaching in the United

States. The paucity of research on coteaching is best demonstrated by Murawski, Swanson and Swanson's (2001) meta-analysis title: "*A meta-analysis of coteaching research: Where are the data?*" This study's title summarizes the problem: coteaching provides more theory than data. Because coteaching is relatively new to the field of ESL, most of the research available is from the special education field. Unless explicitly stated to the contrary (by a footnote or in the text), articles cited in this paper focus on special education due to a lack of literature focusing on ESL.

Coteaching in its current form began in the special education field; special education, like ESL, historically relied on a pull-out model, an educational approach in which children are removed from the general education classroom by a specialist for the purpose of receiving specialized instruction of some sort. Due to parallel concerns about the students' integration into the mainstream, coteaching as a means to address the marginalization of students has recently spread from special education to English as a Second Language. Books and articles abound extolling coteaching benefits for ELLs and for special education students (Brunneau-Balderrama, 1997; Cook & Friend, 1995; Friend & Bursuck, 1999; Hourcade & Bauwens, 2003; Pugach & Johnson, 1995). In the special education field, like in the field of ESL, empirical research is lacking.

Many more questions must be answered about coteaching, especially from the perspective of those who must perform it -- the teachers. I have noticed that teachers who express positive attitudes toward coteaching tend to be enthusiastic and expend more effort toward coteaching. Conversely, teachers who express negative attitudes toward coteaching tend not to expend much effort, and, in some cases, find ways to avoid the practice altogether. I am interested in learning about teacher attitudes toward coteaching. I arrived at the following research questions: do most teachers currently practicing coteaching feel mostly positive or negative about the model? Why? What factors in a teacher's personal history or school setting may contribute to these attitudes?

This study's purpose is to find out about the attitudes of urban ESL and general education co-teachers, teaching grades kindergarten through sixth grade, and which factors correlate with these attitudes. These factors include the presence of voluntary partnerships, number of coteaching partners, professional development, age, years teaching, school setting, and types of teaching licenses.

Hopefully, this research will help district officials and teacher accreditation institutions understand the factors that contribute to successful coteaching, and which factors are correlated to barriers to successful coteaching. This coteaching investigation can lead teacher educators and leaders to

determine how they might address these issues to support co-teachers. In the long run, these insights may be the catalyst for more support in coteaching. By examining the attitudes of practitioners, and identifying the factors with which these attitudes are correlated, and by sharing the results with district personnel, they may increase support for co-teachers. If co-teachers are more successful, they will likely be more successful in supporting ELLs.

In addressing which best practices related to coteaching and which personal attributes of teachers actually influence the experience of co-teachers, I am partially replicating Austin's (2001) study on coteaching between special educators and general educators. Although the instrument was adapted from Austin, my focus, however, will be on ESL and general educators in a large, urban district teaching Kindergarten through sixth grade.

In the next section, I will review literature pertinent to coteaching, as well as outline approaches and components to coteaching. Finally, I will summarize results of academic and attitudinal studies of coteaching. After the literature review, I will outline the methods I used to answer my research question. Then, I report on the results and the conclusions. After that, the appendices contain copies of the instrument, and all informed consent information.

CHAPTER TWO: LITERATURE REVIEW

In this chapter, I provide a review of the pertinent literature necessary to understand the research gap related to coteaching between ESL teachers and general educators. This review will focus on the rationale for and against coteaching, the best practices advocated by coteaching advocates, and the data available evaluating the coteaching model, including attitudinal studies. I will examine the research related to key research questions: Do most co-teachers have positive or negative attitudes toward coteaching? Why? As discussed earlier, what factors correspond to these attitudes?

A Critique of Pull-Out

In order to understand why coteaching emerged as an alternate program model to teach ELLs, it is important to understand the dominant approach to the education of ELLs: the pull-out model. This allows us to understand why some educators are leaving pull-out, and forging new ground with coteaching.

The Supreme Court Decision *Lau v. Nichol* (1974) mandated public schools to provide an appropriate and comprehensible education for non-native speakers, and the Equal Educational Opportunity Act (EEOA) was passed to ensure the compliance with the ruling, according to Cornell (1995). This case and subsequent legislation brought about approaches to the education of non-native speakers including bilingual education and ESL

classes, which were usually executed as pull-out. In ESL pull-out programs, ELLs are removed (or 'pulled') from general education classes and given separate instruction in the English language.

These pull-out sessions range in time from 15 minutes to 1½ hours each day (Cornell, 1995). Unfortunately, the pull-out time may be inadequate for student needs and may be used as "homework catch up time." Even a quality pull-out program cannot begin to address the other 5 ½ hours the ELL spends in school – in the general education classroom. Due to the separate nature of pull-out, Cornell (1995) argues pull-out is a form of segregation.

A Brief History of Coteaching

Although coteaching is a newer addition to the field of ESL, coteaching itself is not new. Coteaching in U. S. schools began in the 1960's. Considered a 'revolutionary' act, limited coteaching began (Nunan, 1992; Pugach & Johnson, 1995). This early coteaching gained popularity through the 1970s (Reinhiller, 1996). Convinced coteaching held promise for special education students, former U.S. Assistant Secretary of the Office of Special Education and Rehabilitative Services Madeline Will called for a move to inclusion in special education in 1986 through coteaching (Welch, Brownell, & Sheridan, 1999). Scores of special educators joined the movement toward education and social integration.

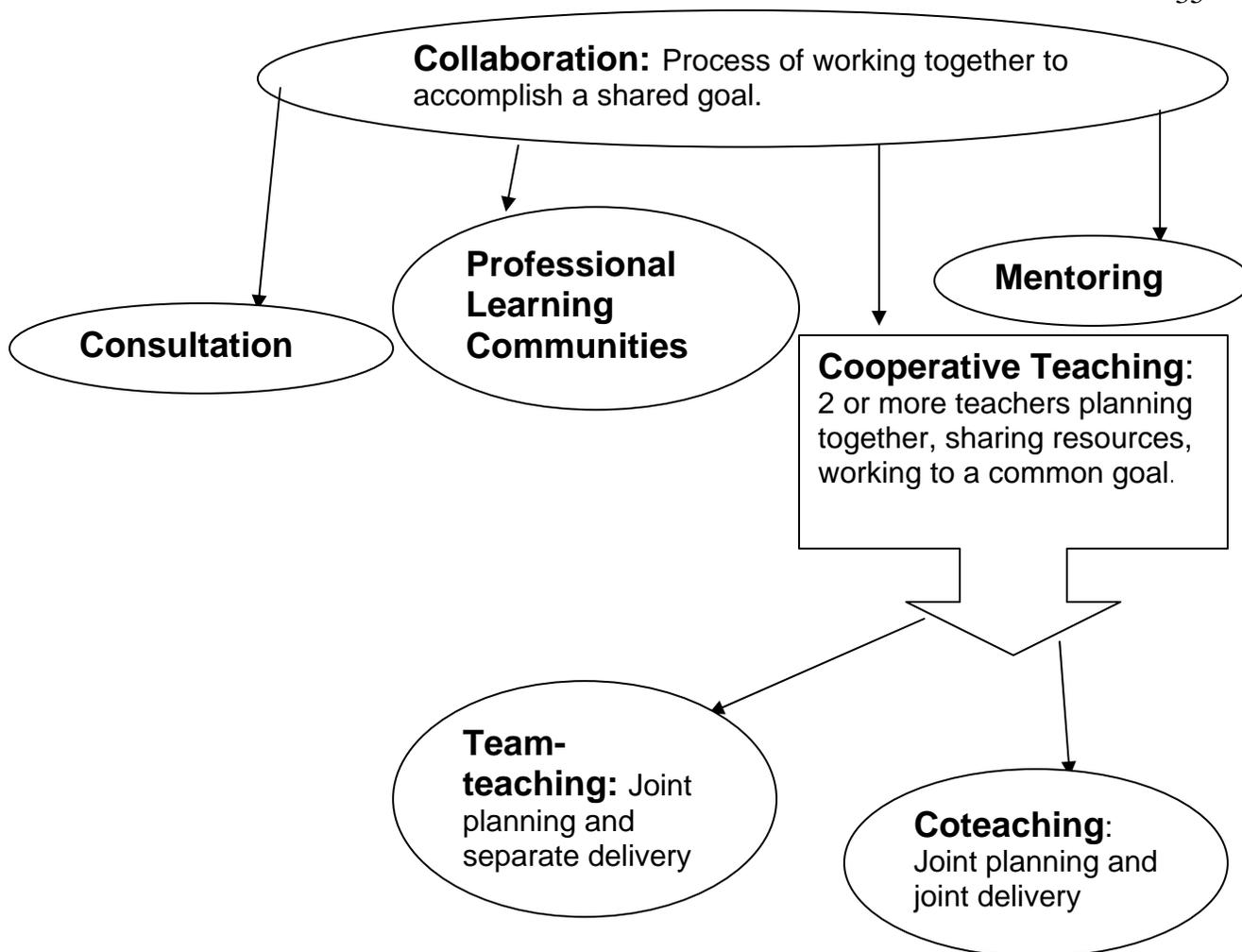
While special educators were working toward this integration through coteaching, many professionals in the ESL field expressed concerns about ELLs' marginalization. They were convinced the marginalization of ELLs was similar to the marginalization of special education students. Eventually, the ESL field began to look toward the special education field for ideas on enhancing the integration of ELLs into the fabric of schools. ESL researcher Jim Cummins (1984) wrote about the parallels between ELLs and special education students (Cummins, as cited in Harper & Platt, 1998). According to Cummins, ELLs and special education students have similar learning needs. Both ELLs and special education students need specialized instruction, instruction through "multiple modalities", and genuine interaction with classmates and teachers (Cummins, as cited in Harper & Platt, 1998). The special education researchers Bahamonde and Friend (1999) also saw parallels in the two populations and recommended the coteaching model used in special education be applied to bilingual education.

In the last twenty years, ESL coteaching programs have been implemented in English programs around the globe. This approach is being implemented across England, Australia, and Canada (Mohan, Leung, & Davison 2001). This approach is emerging in international schools, such as in Taiwan (Davison, 2006), and the U.S. Department of Defense Schools (DODS, 2007).

In the United States, a variety of school districts have implemented ESL coteaching programs. Examples of schools employing ESL coteaching include urban (e.g., Portland; Oregon, de Leeuw, 2000), suburban (Twin Cities suburb; C. Shellberg, 2006, personal communication), and rural (Eau Claire, Wisconsin; Eau Claire, 2006). Like special education coteaching, ESL coteaching has advantages and disadvantages. Before discussing these advantages and disadvantages, I define what is meant by collaboration, coteaching, and other key terms.

Key Concepts in Coteaching

Unfortunately, in writing about collaborative coteaching in both special education and in ESL, terms are used haphazardly, often equating a specific concept with a more general one. In Saint Paul Public School District (SPPS, the focus of this study) for example, “collaboration” is used by the ESL department to indicate ESL/general education coteaching. This use of collaboration is confusing because, by definition, it is a broad term used for many activities in which people work together in a cooperative way. Because this use of terminology is unclear, I clarify and distinguish specific terminology from the broader concept it derived from, and synthesize the definitions of key terms from educational theorists (Cook & Friend, 1993; ELL Handbook, 2006; Friend &



Bursuck, 1999; Hourcade & Bauwens, 2003; Murawski & Swanson, 2001). Figure 1 illustrates my use of coteaching terms, moving from the general to the specific.

Figure 1. Hierarchy of Key Terms

The first and broadest concept in the hierarchy is collaboration.

Collaboration is the process of working together to accomplish a shared goal (Cook & Friend, 1993, as reported in Friend & Bursuck, 1999). Collaboration includes Professional Learning communities, a structure in which staff works

together to improve their own instruction through trouble-shooting together. Collaboration also includes mentoring of new teachers by experienced teachers and consultation.

Another type of collaboration is cooperative teaching. Cooperative teaching occurs when a general educator and a specialist work together in coordinated manner in the general education setting. Each educator has distinct skills, but they share roles, resources, and responsibilities. Through cooperative teaching, both professionals work together toward success for all children (Hourcade & Bauwens, 2003). Many forms of collaboration through cooperative teaching exist in school districts; examples of cooperative teaching include team-teaching and coteaching.

In team teaching, content is planned together, but delivered separately. Friend and Cook (1995) discuss this form of “traditional” team teaching that takes place in two separate classes, which are jointly planned and taught separately by two teachers. This is common in the open schools movement and middle schools (Friend & Cook, 1995).

Coteaching is the other cooperative teaching format involving two teachers who share the instruction for one group of students. The coteaching model includes the following four elements: joint delivery of instruction, joint

planning, joint assessment, and reflection on the collaborative process (ELL Handbook, 2006). Teachers working together in class is only one part of coteaching. Teachers also must spend time away from class to plan, assess and reflect on their coteaching relationship (Murawski & Swanson, 2001). There are several approaches to coteaching, which are outlined in the next section.

Coteaching Approaches

Friend and Bursuck (1999) discuss five major approaches to coteaching. These approaches include the following: lead and support, station teaching, parallel teaching, alternative teaching, and joint coteaching. Co-teachers select from these approaches depending on the coteaching relationship, teacher preferences, or student needs. Table 1 summarizes the five principal approaches to coteaching.

Table 1 *Coteaching Approaches*

Coteaching Approach	Teachers	Student arrangement
Lead and support	One leads instruction, the other focuses on individual student needs	Whole class/ Large group Flexible groupings for specific purpose -
Station teaching	Each teacher leads a lesson for a small group of students	students rotate through stations

Parallel Teaching	Teachers teach same curriculum, ideally two equal-sized groups	Flexible groupings for specific purpose
Alternative teaching	One teacher teaches larger group, other teaches smaller group for remediation or enrichment	Flexible groupings for specific purpose
Joint Coteaching	Teachers both share instruction and 'chime in' as they teach con-jointly in a coordinated fashion.	Whole class/ Large group

The first approach is the lead and support approach. In this approach, one teacher is responsible for leading the instruction; the other teacher helps provide scaffolding to students. Ideally, teachers alternate roles. For example, in a third grade classroom, an ESL teacher may lead a lesson on checking one's own writing for sentences containing a subject and predicate. The general educator may then take the leading role and lead a large-group practice while the ESL teacher assists. During the work time, both teachers scaffold student work (ELL Staff Handbook, 2006; Friend & Bursuck, 1999).

Another approach is called station teaching. Station teaching involves each teacher leading part of the day's lesson for small student groups who rotate through stations. For example, in a second grade classroom, the ESL teacher teaches a station for six students practicing the reading strategy of making text-

to-text connections. The general educator teaches a station for six students of spelling patterns using a letter tile game. The remaining students work in the 'independent' station of independent reading (ELL Staff Handbook, 2006; Friend & Bursuck, 1999). After a specified amount of time, the students rotate to another station.

The third coteaching approach is parallel teaching. In parallel teaching, teachers divide the class into two heterogeneous groups, and each teacher leads a group, teaching the same content at the same time. The groups are the same or similar size, and the teachers communicate often about their progress, as in other approaches (ELL Staff Handbook, 2006; Friend & Bursuck, 1999). Especially in classrooms with a large student to teacher ratio, the parallel taught lesson might allow a teacher to give students more individualized attention. Student behavior in a smaller group may improve due to more attention, and the teacher may be able to teach the lesson more quickly than possible with a large group.

The fourth approach to coteaching is alternative teaching. Alternative teaching occurs when a teacher splits a smaller group off the larger group in order to provide remediation or enrichment (ELL Staff Handbook, 2006; Friend & Bursuck, 1999). An ESL teacher may use an alternative teaching approach to teach ESL-specific needs such as the pronunciation of the past tense *-ed*, but will

more frequently pull aside a small group including both ELLs and non-ELLs. This approach differs from pull-out, because it is limited in time. The teacher usually pulls the students aside in the classroom or an adjacent shared space. Students are pulled aside for a specific need, and for a limited time. There is a reduced stigma associated to this because all students will be pulled aside on occasion – it does not target only specific low-achieving students.

The next kind of coteaching involves two teachers leading the lesson together, with the entire lesson conducted at the same time and in the same place, often finishing each other's sentences. Although this is often referred to as coteaching or team-teaching in the research, this is a misnomer, because this coteaching approach is, in fact, one among many. For this reason, I will use the term "joint coteaching" to refer to the kind of coteaching in which two teachers play a "duet" and jointly teach together in a coordinated fashion at the same time (ELL Staff Handbook, 2006; Friend & Bursuck, 1999). For example, two third grade teachers may use a joint coteaching approach for a particularly challenging writing lesson. The general educator creates a list of adjectives with the students for a memoir. The ESL teacher writes the students' answers on the chalkboard, but realizes many students are confused. The ESL teacher jumps in and explains the concept in another way. Without pausing, the general educator takes the

chalk and continues the notes on the chalkboard. Joint co-teachers teach in a three-way conversation between the two teachers and the class.

Examples of these five approaches to coteaching illustrate the opportunity for coteaching partners to vary lessons according to student needs and lesson objectives. Understanding what coteaching is inevitably leads us to discuss why and how coteaching is an appropriate way to address the needs of ELLs in our schools.

Advantages to Coteaching

This study seeks to determine the attitudes of teachers toward coteaching, and then to find correlations between these attitudes and teacher characteristics. In order to understand these attitudes, it is imperative we understand the advantages and disadvantages of coteaching. They are inescapably linked to how a teacher views the educational approach.

Coteaching overcomes some of pull-out's limitations. For example, in a co-taught classroom, students stay with their peers and their general education teacher for a larger portion of the day. Inclusion supporters claim human rights are better addressed staying with peers, and it may be a violation of a student's human rights to be separated from his or her peers, even for part of the day

(Friend & Bursuck, 1999). Although this separation from native-speaking peers is permissible under law (NCELA, 2006), some educators maintain pull-out programs are unethical nonetheless. Cornell (1995) contends inclusion in the general education setting decreases the academic failure of ELLs in the mainstream. Special educators maintain all students benefit from inclusion in the general education setting (Friend & Bursuck, 1999). Just as students who do not have learning disabilities benefit from working with students who learn in a different manner, students who are native English speakers benefit from exposure to peers who are bilingual (Risko & Bromley, 2001).

Students in a co-taught classroom may be protected from the negative stigma often associated with pull-out programs. Coteaching supporters claim there is often a stigma associated with leaving the general education setting to receive pull-out instruction (Friend & Bursuck, 1999). In these special education coteaching situations, research suggests that in an inclusive classroom, students do not pay attention to why the 'extra' teacher is there, but instead all access the other teacher's 'help' (Pugach & Wesson, 1995; Welch, 2000). In this way, there is no stigma attached to any given student receiving help, because it occurs equally within the classroom.

Students may receive a more consistent and efficient education in a co-taught setting. Coteaching advocates point out staying in the classroom saves time. Pull-outs result in added transition times from one learning environment to another (Friend & Bursuck, 1999). Cornell (1995) contends that for ELLs, coteaching is superior to pull-out due to fewer transitions during the school day. For example, six minutes lost daily in transition would be 2,160 minutes annually – which may negatively impact struggling students given the classroom’s frenetic pace. In addition to the time missed in transition, students in pull-out struggle to make up content they missed while away from the general education classroom. Because ESL pull-out classes can range between 30 minutes to 1 ½ hours, the amount of content lost could be substantial (Cornell, 1995).

The more consistent and efficient education through coteaching may lead to enhanced academic achievement for ELLs. Although I discuss the outcomes of coteaching in more detail later, it is clear that advocates of coteaching between ESL teachers and general educators believe coteaching has the potential to reduce the achievement gap between ELLs and native speakers (Cornell, 1995). Duke and Mabbott’s (2001) research on ESL coteaching with Saint Paul, Minnesota newcomers suggested that the academic achievement of the newcomer students in the treatment group improved more than those students

educating using the more traditional approach which involved educating newcomers in a separate classroom far away from native-speaking peers.

Coteaching also provides benefits to teachers as they address their students' needs, as the co-taught classroom may facilitate rigorous content. The general education setting is often superior to pull-out work (Friend & Bursuck, 1999; Risko & Bromley, 2001). Even in cases in which the ESL teacher created enriching content for the ELLs, the ESL teacher would have to work very hard to replicate the content. ESL teachers are often not licensed to teach the content. Instead, in a coteaching situation, the ESL teachers may have been able to access content in the mainstream room (Brinton, Snow, & Wesche, 1989 as cited in Wertheimer & Honigsfeld, 2000).

Collaborative practices offer philosophical and professional advantages. Advocates of coteaching argue that by using the approach, the profession of education becomes more democratic, enjoys an expanded sense of professional responsibility, and transforms an isolating job to a collegial, professional career with improved working conditions (Pugach & Johnson, 1999). The shared responsibility and paradigm shift to more collaboration may facilitate a shift to enhanced community collaboration (Risko & Bromley, 2001).

The collegiality inherent in coteaching may lead to differentiation and curriculum reform, due partially to a decrease in the student-teacher ratio. Two teachers working together to improve instruction and to 'divide and conquer' through parallel or alternative teaching at times can facilitate differentiation for all students without tracking (Hourcade & Bauwens, 2003; Pugach & Johnson, 1999). The shift to differentiation can allow teachers to shift from the deficit model of seeing students as 'lacking' something, to see all students as unique individuals with different strengths and weaknesses (Risko & Bromely, 2001).

Finally, coteaching helps the teachers further integrate language and content (Mabbott & Strohl, 1992). General educators are often more familiar with content than their ESL counterparts. ESL teachers are generally more familiar with creating language objectives than their general education colleagues. Together, by jointly planning and delivering lessons, language and content can be present in the same lesson. Through coteaching general educators may gain experience in creating language objectives, and may be more likely to think about the ELL's language needs throughout the day.

Disadvantages to Coteaching

Despite the advantages, many teachers and educational professionals have concerns either with the theory behind coteaching and full inclusion, or

with the model's implementation. Friend & Bursuck (1999) and Zigmond (2001) detail some concerns from a special educator's perspective. Many concerns may be extended to the ESL coteaching model, since the model was usually borrowed without substantive modifications from special education. There is some limited research outlining the experiences of general and special educators and students in co-taught classrooms, but very little research documenting the experiences of ESL co-teachers and their students. The lack of ESL-specific research leads us to draw from special education literature.

The first disadvantage to coteaching is that it denies the learner's uniqueness and the special learning needs he or she brings (Friend & Bursuck, 1999; Zigmond, 2001). ELLs instructed in heterogeneous groups, for example, still have unique needs, for example, idioms, vocabulary, or pronunciation activities. Addressing these needs in the general education setting may call attention to difference, leading to a student feeling embarrassed (Friend & Bursuck, 1999). If an ESL teacher assists all students, whether or not they receive ESL services, the ELLs are no longer receiving an "extra" service for their unique situation as a language learner. Because the ESL teacher's attention is divided between ELLs and NS, ELLs receive less help than they would with a teacher dedicated only to them. By denying these unique learning needs, students are

submerged in the general education environment. This may be an inefficient learning environment, because it is directed toward the general population. A pull-out setting can provide increased efficiency with structure and specialization that can not happen in the general education classroom's three ring circus (Friend & Bursuck, 1999). It may be more possible to address the unique needs of the learner (exposure to idioms, basic vocabulary, etc.) in a separate setting. Some students may require more support, and it may be impossible to provide sufficient student support, in an especially high-need population (Friend & Bursuck, 1999).

The second disadvantage to coteaching is that the power difference between ESL teachers and general educators is difficult to overcome. ESL teachers are generally marginalized by their general education counterparts (Creese, 2001 as cited in Arkoudis, 2006). Arkoudis (2006) argues ESL teachers are generally placed in a position subordinate to general educators. The relationship between ESL and general education teachers is complicated by the lower power of ESL, which is often seen as a general skill, which any native speaking teacher might have, whereas a content teacher (such as a science teacher) requires a specific knowledge base (Creese, 2006). In the teaching partnership profiled by Arkoudis (2006) the ESL teacher holds leadership

positions at her school, yet defers to her coteaching partner in planning conversations (Arkoudis, 2006).

The third disadvantage to coteaching is related to the second disadvantage. Because of this power differential, “turf issues” often emerge when a new co-teacher seeks to come into the physical and content space “owned” by the general educator (Reddit, 1991). In some cases, general educators tell co-teachers not to talk during instruction (Friend, 2007).

Lastly, the model’s success is difficult to achieve because of the difficulty of effective implementation. This ineffective implementation may be due to a lack of training or lack of preparation. The general education teacher may not be prepared to meet the learners’ needs (Friend & Bursuck, 1999). Neither co-teacher may have the preparation to work together with the intensity required by coteaching. Difficulty in effective implementation may be due to systemic issues. Redditt (1991) cites barriers such as busy schedules impeding common planning and curricula development, schedules resulting in a lack of time to communicate with parents, and a lack of time to reflect on coteaching. Reddit (1991) also discussed the barrier of the lack of administrative support.

Supportive Structures for Coteaching

Despite all its advantages, coteaching is difficult to do, and even more difficult to do well. DiPardo (1999) is amazed coteaching ever occurs, given the limited time available and the lack of training present in schools. Countering this difficulty, researchers cite the following structures which facilitate effective coteaching. These structures fall under the broad umbrella of administrative support, and include the following: voluntary partnership, professional development, shared ownership, parity, time, resources, practice, and focus on student needs. The broadest concept, administrative support, is the essential component for coteaching (Petrie, 2001; Risko & Bromley, 2001). Survey research suggests that administrative support may be one of the most important components for the success of coteaching, according to New Jersey K-12 special and general education co-teachers (Austin, 2001).

The first essential structure administrators can provide for effective coteaching is voluntary partnerships (Friend & Bursuck, 1999; Risko & Bromley, 2001; DiPardo, 1999; Redditt, 1991). In addition, Hourcade & Bauwens (2003) state that if partnerships are assigned and not chosen, the results will fall short of true collaboration. In fact, voluntary partnerships may be the most important element for success. Ideally, both teachers must be good teachers, and committed to coteaching (Nowacek, 1992; Risko & Bromley, 2001). If one teacher is sent in to

“save” an under-performing colleague, the relationship will be neither equal nor equitable, not true coteaching. Both teachers need to have compatible views of the learning environment (Bruneau-Balderrama, 1997), and work in symphony to create a positive and active environment with high expectations for all (Dieker, 2001). Teachers may select co-teachers by similar teaching styles and philosophies. Ideally, both teachers should prefer active and cooperative learning styles, which particularly lend themselves to coteaching (Dieker, 2001). It is imperative teachers treat each other in a collegial manner. Collegiality may be easier for those to wish to work together (Hourcade & Bauwens, 2003). Administrators could allow a teacher to choose not to co-teach or allow them to select another coteaching partner.

The second supportive structure for effective coteaching is professional development for all co-teachers (Petrie, 2001). According to de Leeuw (2000), an article which discusses the author’s observations on ESL coteaching in Portland, Oregon, quality professional development is the most important structure. Austin (2001) recommended schools offer professional development devoted to coteaching, and teacher education institutions provide pre-service training about coteaching. Professional development can relate to the essential structures required for coteaching, as well as on strategies for working together.

Administrators can support professional development by reserving staff in-service money and time for training focused on coteaching. Administrators may offer release days or extra pay for out of school time spent attending related trainings.

The third supportive structure for coteaching is shared ownership. Teachers must also strive for shared ownership in the classroom, goals, responsibility, accountability, students, and materials. Space must be seen as shared, not as one teacher visiting “my” space. Both teachers must hold shared goals, shared responsibility, and shared accountability. Each co-teacher must see the students as "our students" (Friend & Bursuck, 1999; Pugach & Johnson, 1995). Evaluation should be done jointly, and many evaluation modes are utilized in effective coteaching teams (Dieker, 2001). In order to share equitably, roles need to be defined (Dieker, 2001). Administrators can allow extra time during teacher workshop weeks for teachers to jointly plan and set up shared classroom space. Administrators can also encourage co-teachers to discuss roles and philosophies at the beginning of the year.

Appropriate materials and curriculum should be jointly held as well (Bricker, as cited in Harper & Platt, 1998). Sharing materials is related to the shared ownership of students, spaces, and responsibilities. The paradigm shift

toward coteaching also involves shared materials (Friend & Bursuck, 1999). One difficulty in the sharing of materials is that the materials are often not materials provided by the school, but personally held materials. Teachers may be resistant to sharing the materials they purchased out of their own personal budgets, or those materials in which they spent hours creating, whereas quite open to sharing materials provided by the school. Voluntary partnerships may prove helpful in this area, as it may be easier to share materials between colleagues who get along well together. An administrator could provide appropriate materials and material storage systems using the school's budget.

Administrators must provide adequate space for all teachers and children. The space must be adequate for two teachers, all children, etc. (Risko & Bromley, 2001). This is a challenge given large class sizes and small classrooms in many schools today. Also, some activities are louder than others, and distractions can impede learning. Consistent with the model, a flexible, shared space can be used (by either teacher) to enhance the learning experience for all children (Cook & Friend, 1995). In order to ensure teachers are also performing their administrative duties, such as paperwork, each teacher will also require a space in which he or she can complete work separately (Bruneau-Balderrama, 1997). If possible, alternative teaching groups should use a shared space near a general

education room, and not the general education room to reduce noise, distraction, and allow students to feel more comfortable asking for help (Pugach & Wesson, 1995). Administrators can support programs by realizing occasional separation of teachers may not be violating the coteaching model. They can also take coteaching relationships into account when assigning classroom spaces; they can refrain from using coteaching as an excuse to gain space by closing special education rooms (Pugach and Wesson, 1995). Although space is limited in most schools, administrators can support space for teaching and learning through creativity and the careful setting of priorities.

Not only should there be shared ownership, but there should also be parity in the relationship. A fourth factor in successful coteaching is that both co-teachers share power and work equitably (Friend & Bursuck, 1999; Risko & Bromley, 2001). Neither teacher should become a 'glorified aide,' as this minimizes the professional teacher role, nor should a teacher leave the room to do other work, which violates the spirit of coteaching. If either of these scenarios occurs, the students may receive fewer ESL services. Redditt (1991) observed as evidence of classroom parity when teachers reference each other as they taught. For instance, a teacher may say, "When Mrs. Smith and I planned this, we decided to..." This strategy for increasing parity is only possible if teachers co-

plan and communicate about their teaching. Administrators can support the teacher parity by refraining from practices that minimize the specialist's role. An administrator should refrain, for example, from canceling the ESL teacher's coteaching duties for in-house substitute teaching.

The fifth structure for effective coteaching is the provision of resources, and the most important resource is time (Redditt, 1991). It is imperative teachers spend time in joint planning (Friend & Bursuck, 1999; Hourcade & Bauwens, 2003; Pugach & Johnson, 1999; Risko & Bromley, 2001; Vaughn, Schumm, & Arguelles, 1997). Administrators must provide time for professionals to participate in program design (Hourcade & Bauwens, 2003; Redditt, 1991). Although co-planning is an important coteaching component, this time for planning can be quite difficult for teachers to secure, according to Franson's (1999) study examining ESL coteaching in suburban England. For coteaching to happen, administrators must assist with scheduling and make coteaching the first priority in creating the school's schedule (Jordan Rea & Connell, 2005). Coteaching should be designed to occur everyday to ensure program consistency (Risko & Bromley, 2001). Time is at a premium in today's schools, and so co-teachers should conduct efficient co-planning meetings by staying on task, using an agenda, setting priorities, reducing interruptions, and starting and ending on

time (Garmston, 2002). The provision of other resources, such as professional development, could enhance co-planning meeting efficiency. Administrators can communicate the necessity of such meetings and offer substitute teachers to allow teachers to engage in long-term planning during the school day. They can set the school schedule to allow for joint preparation periods. The teacher has very limited time in which to meet with potential co-teachers. For this reason it is difficult to nearly impossible to plan with and maintain relationships with several coteaching partners (Pugach & Johnson, 1999). In order to facilitate true coteaching with joint planning, each specialist at the elementary level should co-teach with few general educators - generally no more than three classrooms at the elementary level (Mabbott & Strohl, 1992; Risko & Bromley, 2001).

All of the previous structures for coteaching are difficult to achieve; therefore, teachers must practice and strive for continual improvement, the sixth structure for effective coteaching. Coteaching is emergent; it gets better over the years (DiPardo, 1999; Friend & Bursuck, 1999). This gradual improvement suggests coteaching should be taken on gradually (Petrie, 2001). The trust required to teach together emerges over the years: Two years is seen as just a beginning (DiPardo, 1999). This continual renewal is possible if both teachers are committed to improving their practice and the relationship (Pugach & Johnson,

1999). Pugach and Wesson (1995) found increased parity in coteaching relationships over time. An administrator could support co-teachers in this area by reminding the teachers to be patient while striving toward continual growth and development.

Above all, professionals must maintain an unwavering focus on student needs. Some schools may prefer the appearance of working together over doing what is best for students. A primary focus on student needs precludes unbreakable rules against students being educated outside the classroom for any reason. Special educators have noticed a few specific needs may only be addressed when students are separate from their peers (Adams & Cessna, 1991). Basing service on student needs may be helpful for ELLs as well. In a school in which coteaching is the main model, a student or small number of students may need special and separate instruction that may approximate pull-out (Adams & Cessna, 1991; Dieker, 2001; Harper and Platt, 1998; Mabbott & Strohl, 1992). Very few students would require services which separate them from their peers (Redditt, 1991). For example, a fifth grade newcomer may need time away from peers in order to practice language and take risks without fear or ridicule. Although coteaching is successful in increasing ELLs' integration, it should be applied with common sense and an eye toward students' needs. An

administrator could support co-teachers in this area by allowing the use of pull-out-like strategies for specific cases, limited in number and duration.

In conclusion, these supportive structures for coteaching all depend on administrative support and have been suggested by many researchers studying coteaching. Unfortunately, more research must be done to determine which of these are, in fact, correlated with successful coteaching programs. More research must also be done to discover which of these supportive structures are the most important for success in coteaching.

Research Outcomes of Coteaching

Coteaching is an emerging and promising approach to diverse learners' education, but unfortunately few researchers have examined its efficacy empirically. The lack of research is staggering. Murawski and Swanson's (2001) meta-analysis of research on special education coteaching programs from 1989-1999 set forth criteria to evaluate coteaching research. The criteria included having sufficient quantitative data to determine the effect of coteaching in achievement, and that the coteaching must be coteaching (working together in the same space, involve co-planning and heterogeneous groups). Additionally, Weiss's (2004) literature review of special education coteaching studies found most studies in this area were neither empirical nor offered conclusive results.

Welch, Brownell, & Sheridan's (1999) literature review of special education coteaching studies seemed to suggest a tie: there are positive student outcomes and teacher interest, but limited empirical evidence of student outcomes. In a review of 65 books and articles, only 19 were primary research, and only 11 articles focused on ELLs, including bilingual education. Only five articles specifically focused on elementary learners and teachers, and there is an overall lack of quantitative information.

Some studies do contain some empirical data related to the academic coteaching outcomes. These studies provide promising results, but they generally take place in one classroom. Self, Benning, Marston, and Magnusson's (1991) classroom study of special education and federally-funded remedial reading teachers set in the general education setting found positive outcomes. An analysis of the rate of improvement in students' reading fluency scores on the Curriculum Based Measure (CBM) showed students improved more during the coteaching intervention than they did before the intervention. Schulte, Osborne, and McKinney (1990) studied coteaching in an elementary environment and found students with learning disabilities improved more if they received in-class support and consultation between the learning disabilities and the classroom teacher than students who received pull-out only. On the other hand, Klingner,

Vaughn, Hughes, Schumm, and Elbaum (1998) found that learning-disabled (LD) students in grades 3 through 6, who began the year as very poor readers, did not improve via coteaching alone.

Duke and Mabbott's (2001) study focused specifically on coteaching between ESL teachers and general educators. The results of this co-taught newcomer program suggested students improved more academically than in the previous model - a separate all-day program for newcomers. District officials administered reading fluency and math computation tests to the students in the co-taught class, and also to similar students in the old self-contained model. Both classroom teachers were identified as similar to their partner in teaching skill. The students' scores were statistically similar before treatment. After treatment, the reading fluency and math computation was significantly higher than the self-contained group.

There are some possible school-wide benefits to coteaching. Redditt's (1991) study indicates established coteaching programs may reduce special education referrals; it seems coteaching increases in-classroom differentiation, resulting students' needs being more fully met. Redditt (1991) also observed a positive social outcome to coteaching, indicating that teachers modeling

collaborative behavior between them can promote pro-social behavior in children.

Attitudes Toward Coteaching

These studies suggest students make academic progress in co-taught classes. These studies suggest that coteaching is promising, but more research is required. A major area in which this research is lacking is in the area of teachers' attitudes toward coteaching. Because teachers are in classrooms everyday, their opinions toward coteaching may be an important indicator of the effectiveness of the model.

Although attitudes are held by all people, the term is defined differently by different researchers. For the purpose of this paper, the definition of attitudes is "a summary evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likable-dislikable (Ajzen & Fishbein 2000, Eagly & Chaiken 1993; and Petty, Wegener D, & Fabrigar L. 1997)" (in Ajzen, 2001, p. 28).

Attitudes are important to study because it is "now generally recognized that attitudes are relevant for understanding and predicting social behavior" (Ajzen, 2001, p. 48). A person with a positive attitude toward a concept such as

coteaching tends to be attracted toward it, and may spend more time pursuing it (Ajzen, 2001).

Besides attitudes, another influence in behavior is past behavior.

“Behavior may contain automatic, habitual aspects not accounted for in models of reasoned action” (Ajzen, 2001, p. 48). For this reason, questions investigating current practice should be included in research on attitudes.

Several studies look at the attitudes of teachers, but few look specifically at the attitudes of co-teachers toward coteaching itself. Two studies investigated this very topic, including Austin’s (2001) study, and Marshall and Herrmann’s 1990 study. Pugach and Wesson’s (1995) study examined the attitudes of students toward the co-taught classroom.

Austin (2001) performed a survey research study on the beliefs of 139 special and general educators in New Jersey. Austin cross-analyzed participants and their coteaching partners for all participants (n=92). A random sample of these survey participants was chosen for interviews. Austin’s (2001) survey of special educators and general educators indicated teachers felt positive about the reduced student-teacher ratio resulting from two teachers teaching together. Most co-teachers asserted they shared most teaching duties, but both felt the classroom teacher held more responsibility within the co-taught classroom

(Austin, 2001). He also said special educators were more likely to agree in the usefulness of placing student teachers in collaborative settings, and providing pre-service courses on collaboration.

Marshall and Herrmann (1990) researched the coteaching in a pilot program involving graduate students of education, both special education and general education. Education students responded to a questionnaire before and after coteaching, and were observed in the classroom. The responses and observations indicated education students most often employed approaches that were not true coteaching approaches. Education students tended to alternate the primary instruction role and did not participate in co-planning. The most important factor in these pairs was the similarity of teaching style and personalities. Education students who had previously employed coteaching tended to have less positive opinions about coteaching.

Pugach and Wesson's (1995) study surveyed students to ascertain whether or not they liked co-taught classes. Fifth grade students, nine of whom were learning-disabled and nine of whom were non-disabled, took part in a study examining students' attitudes toward co-taught classrooms involving general educators and LD specialists. Students had positive views toward the coteaching model. When compared to a pull-out program, learning-disabled students

reported having more friends and felt their educational needs were met more adequately. Pugach and Wesson's study also commented on the coteaching itself: They found parity in coteaching teams increased over time. The first year the specialist tended to take the support role; the second year, the lead rotated and the division of instruction was more equitable.

Overall, the few attitude studies indicate that co-teachers hold positive attitudes toward coteaching, and that students in co-taught classes also hold positive attitudes toward coteaching. Student teachers did not tend to hold these positive attitudes toward coteaching; yet student teachers are not as experienced in coteaching, and may have had difficulty mastering the approach during a student teaching placement.

In this literature review, I demonstrated the serious lack of research surrounding coteaching, especially the lack of literature regarding ESL/general education coteaching. I demonstrated the importance of studying the emerging trend of coteaching, due to the promise of the model to address the shortcomings of pull-out. Teachers' attitudes toward coteaching may be related to perceived coteaching advantages, and disadvantages, as well as to how many best practices are followed. We do not yet know how these factors are related. Because of the inadequate research, there are many questions remaining as to

which coteaching factors correlate to positive teacher experiences. Some of these questions may be answered through a district-wide survey of attitudes on coteaching between ESL teachers and general educators. I am partially replicating Austin's (2001) study by adapting it from a special education coteaching focus to an ESL coteaching focus. In the next chapter, I will describe the methods by which I will answer my research questions: What attitudes do ESL and general education co-teachers have toward coteaching? What factors correspond to these attitudes?

CHAPTER THREE: METHODS

Little academic research has been done about coteaching between ESL teachers and general educators. Most existing research is at the micro level, focusing on a single school or classroom. One large gap in the literature is the attitudes of elementary ESL and general education co-teachers toward coteaching, and which factors may influence these attitudes. My research questions are: Do co-teachers have positive or negative attitudes toward coteaching? Why do they hold these attitudes? What factors correspond to these attitudes?

These factors include basic demographic characteristics, a teacher's educational background, professional development, and teaching experience. I selected an urban district in which many teachers engage in ESL/general education coteaching. My survey investigates which factors affect the attitudes of SPPS public elementary general educators and ESL teachers on ESL/general education coteaching.

Survey Methodology

Survey research is an efficient and effective method to find out about the attitudes of a large range of teachers in a short amount of time. Some classroom research (including cases studies) already exists documenting a few coteaching partnerships (Adams & Cessna, 1991; Dieker, 2001; York Barr, Ghere, & Sommerness, 2007). These studies, however, often study ideal

teaching situations for coteaching. Survey research gives voice to a range of participants, with a range of opinions and backgrounds.

I selected a random sample stratified by ESL teacher and general education teacher instead of a sample of convenience in order to reduce the self-selection error. This is a kind of error which can produce a sample that is very dissimilar to the population. This error is a factor in all voluntary survey research, because completion is not compulsory. For example, if everyone was eligible for the sample, the people who would participate may only be people with positive attitudes toward the model. By employing random sampling, there is a wider range of participants.

Population

SPPS is a mid-sized, midwestern, urban district of more than 41,000 students. Like in many urban districts, a high percentage (42%) of students speak languages other than English at home. These home languages are comprised of more than 103 languages and dialects. 37% of Saint Paul's students are considered Limited English Proficient (LEP). Similarly, socioeconomic status (SES) is an issue for many Saint Paul students. According to the SPPS website, 71% are designated as eligible for free or reduced price lunch. This eligibility is determined by federal guidelines, and is the main indicator of socio-economic

status in U.S. schools.

SPPS's economically and linguistically diverse ELL population outperformed state averages on the Test of Emerging Academic English in reading and writing during the academic years 2003–2004, 2004–2005, and 2005–2006. SPPS's ELLs made gains in math during the same academic years; meanwhile, coteaching was implemented across the district, according to SPPS's ELL website (ELL Department of St. Paul Public Schools, 2006)

A form of coteaching was piloted during the 1999–2000 academic year in a SPPS elementary school, within in a newcomer program (Duke & Mabbott, 2000). During the 2000–2001 academic year, teachers in ESL newcomer programs at two other schools began coteaching as well. By the year 2002, the district's ESL director began to encourage coteaching as a model for schools (Amy Frederick, 2006, personal communication). Because coteaching gradually emerged, different teachers have co-taught for varying lengths of time. This variation allows us to investigate the influence of the number of years spent in coteaching to attitudes on coteaching.

According to the district's website, the total teaching staff during the fall of 2006 of SPPS is 3,470 teachers. SPPS teachers include about 15% teachers of color, according to the local newspaper (Ong, 2006 p. A1). Virtually all (98.93%)

of SPPS teachers hold valid teaching credentials in the appropriate area (Minnesota Department of Education, 2006). More than half of teachers (55.4% have been teaching for more than 10 years. Only 5.76% have been teaching for fewer than 3 years, whereas the statewide average is 8.13% (Minnesota Department of Education, 2006). More than two thirds of teachers in this district hold an advanced degree, 66.5% of teachers hold a master's degree or doctorate, whereas the statewide average is 49.09% (Minnesota Department of Education, 2006).

SPPS's elementary schools are comprised of 51 schools (three of these schools also serve older students as well). The total teaching population at SPPS can be divided into two strata: ESL teachers and general educators. Although many educators hold credentials in both ESL and elementary general education, teachers generally hold one job or the other at any one time. The two strata cover the entire population of ESL teachers and general educators who collaborate.

Sample Selection

I used random sampling procedures in order to generate a sample representative of the population. A random sample may “minimize the effects of any extraneous or subjective variables that might affect the outcome of the survey study” (Dörnyei, 2003, p. 73). In order to ensure a sufficient sample of

ESL teachers and general educators, I employed a stratified random sample. I selected the sample of participants from a list of elementary ESL teachers, and from a list of general educators. Both lists were provided by the school district. There are 916 elementary general educators in SPPS and 197 elementary ESL teachers. Then, I reviewed the suggestions provided by Bartlett, Kotrilik, and Higgins, (2001) to determine the appropriate sample size.

I determined I needed to select 150 ESL teachers, and 210 general educators. The percentage of ESL teachers selected from the general population is higher than the percentage of general educators because there are fewer ESL teachers. This “over-sampling” of the ESL teachers helped avoid problems with statistical generalizations possible in a small population, and to produce enough respondents for statistical analysis.

Each member of the population was ordered numerically, and the final participant pool was determined using an on-line random number generator. Each participant selected received a web-based questionnaire sent to his or her school e-mail address.

Instrument

The questionnaire (See Appendix E) was adapted from Austin's (2001) study on teacher attitudes toward coteaching between special and general educators. Several adaptations were required to make the instrument applicable to the ESL/general education setting. These adaptations were based on the key concepts from the literature review, teacher characteristics, and demographic variables. Additionally, I developed many questions to complement Austin's (2001) study, in order to answer the following research questions: What attitudes do co-teachers hold about coteaching? What factors in may contribute to these attitudes? This study's purpose is to find out what factors affect the attitudes of SPPS public elementary general educators and ESL teachers on ESL/general education coteaching. These factors include the presence of voluntary partnerships, number of coteaching partners each teachers has, professional development, age, years teaching, and types of teaching licenses held.

The questionnaire contained Likert scales, close-ended questionnaire items, multiple choice items, and open-ended questions (Dörnyei, 2003). Questions included coteaching approaches and practices, attitudes toward coteaching, school-based support for coteaching, teacher education and experience, and basic demographic information. I took reliability into account by asking two or more questions measuring the same underlying concept. This

allowed the questions to be averaged using statistical procedures, reducing any biases inherent in one question. The order of questions, and the response categories were varied to reduce acquiescence bias (Dörnyei, 2003). Because acquiescence bias is when respondents tend to agree with all statements, varying the statements forces respondents to carefully read each item.

In addition, some open-ended questions were included. I looked for themes in this data that could elucidate data. Quotations will be verbatim, with only small corrections made in spelling and grammar for the sake of clarity.

The Pilot Study

As in all survey research, the wording of the instrument's items was especially important (Dörnyei, 2003). To ensure validity, the pilot included clarifying questions of the respondent pool to ensure the respondents interpreted survey items in the same way the researcher intended.

I employed a two-part pilot process. For the first part of the pilot process, I met with four SPPS district-level staff members, and one sociologist who has academic experience with survey research. The district-level staff works directly with teachers in professional development, having previously been teachers. Two staff members are ESL specialists, and two staff members are general education specialists. These staff members paid special attention to the content of

the instrument; several questions were added based on their recommendations. They also worked to ensure the questions would be clear and comprehensible to the district's teachers. Special attention was paid to the pilot respondents' understanding of the questions, to ensure they matched the desired interpretation. The survey-research specialist revised the instrument to ensure the instrument will yield appropriate and usable data. Their suggestions led to revisions of the instrument.

The second part of the pilot study focused on the ease of use of the computerized version of the instrument, interpretation of the items, and any editing. The pilot participants included five out-of-district educators, and one professional editor. The pilot participants performed the survey while speaking with me on the phone. They provided verbal feedback and asked for clarification, while I took notes to make further changes. Through this second part of the pilot study I determined an average amount of time needed to complete the on-line instrument.

Data Collection

The questionnaire was delivered via a web-based survey tool called Survey Monkey. This tool was chosen because it is familiar to many SPSS faculty, and thus easier for participants to use. This study took place during the 2006-

2007 academic year. The first part of the pilot process happened in January 2007, and the second part of the pilot process happened in April 2007. The questionnaires took an average of 30 minutes to complete, and informed consent was given via a web-based form. This research was approved by Hamline University's Human Subjects committee, as well as the district's Research Committee.

An adequate response rate is necessary in order to have reliable results. It can be very difficult to obtain an adequate response rate, but to increase the response rate, the timing of the survey period in May was carefully chosen to avoid major school conflicts -- such as conferences and high-stakes testing (Dörnyei, 2003). In addition, the participants were offered the incentive of a summary of the results (Dörnyei, 2003). Other ways the response rate was probably increased was by crafting the questionnaire for maximum participation and sending several survey participation e-mails. In order to involve participants in the questionnaire, the layout of the questionnaire was designed to be attractive; the beginning and ending items were especially interesting to draw people into the questionnaire and decrease drop-outs. The questionnaire's first screen explained the questionnaire's purpose, and how the results were to be used to improve the district. A desire to help was probably an important

motivator for respondents (Dörnyei, 2003). I included my contact information in case anyone had questions or concerns that may have impeded their participation. My last strategy for increasing the response rate was by tracking respondents through the Survey Monkey software, thus allowing me to contact participants directly who had not completed their questionnaire, and also garnering goodwill by not contacting people who had already responded. This feature was tested through a test run of the feature using district e-mail software.

Unfortunately, the test of the participant tracking feature did not reveal that the district's e-mail spam filter would preclude the use of this feature. As a result, I could not track participants, which impacted my final completion rate and response rate. The final response rate was 18% (n=38) out of my initial participant pool for general educators. My final response rate was 39% (n=59) out of my initial participant pool for ESL teachers.

Confidentiality

All responses were kept in a password protected website, and the names of participants were destroyed two months after the data was collected. These confidentiality practices were emphasized to participants by informing the participants before they indicated informed consent. I also emphasized to the

participants the secrecy employed to shield the identities of respondents, and that the data is shared in the aggregate only.

Data Analysis

Using Statistical Package for the Social Sciences (SPSS), data was analyzed using multiple linear regression analysis to determine what factors correlate to a positive coteaching experience. After examining the variables' mean, standard deviation, and skew, I employed multiple regression techniques. These techniques allow a researcher to explore a specific variable's effect on another variable. Multiple regression analysis can measure the proportion of variance that an independent variable causes in a dependent variable at a specific significance level while controlling for the effects of other variables.

Conclusion

Adapting questions from Austin's 2001 study, developing many of my own items, and the subsequent pilot study produced valid and reliable items in order to create scales. These factors account for the survey's success. In the next chapter, I report on my study's findings, including the results of the regression analyses will be described, and discuss these results in more depth. Several of the more surprising results run contrary to the common wisdom of the academics about coteaching as outlined in the literature review; they also run contrary to

the comments added by participants in the open-response questions in the instrument. Potential reasons for these differences are discussed. In the final chapter, I discuss conclusions, recommend areas for future research, discuss policy implications, and limitations of the current study.

CHAPTER FOUR: RESULTS

The objective of this study was to determine whether school-related factors, teaching experience, and demographic variables were related to perceptions about coteaching and pull-out methodologies. Multiple linear regression procedures were conducted to answer the research questions: Do ESL and general education co-teachers have positive or negative attitudes toward coteaching? Why? What factors might correspond to these attitudes?

In the following section, a description of the study's sample and the study's variables will be presented. Thereafter, the results of the regression analyses will be described. The final portion of this chapter will discuss these results in more depth, including qualitative results gleaned from the open-response questions in the instrument.

Descriptive Statistics

Description of the Sample

A description of the sample is presented in Table 2. The respondents varied in age from 21 years old to 60 and over. Half of the group had attained a Masters degree. A majority (94.7%) of the respondents were currently involved with ESL general education co-teaching. Although the total number of participants is 97, not all participants answered all questions, so numbers in the subsequent tables may not add up to 97.

Table 2

Frequency Table for Demographic Variables

Variable	Frequency	Percentage
<hr/>		
Age		
21 to 30	11	11.6
31 to 40	30	31.6
41 to 50	27	28.4
51 to 60	25	26.3
60 plus	1	1.1
Level of education		
Bachelors	3	3.2
Some masters coursework	26	27.4
Masters	50	52.6
Masters plus	14	14.7
Professional degree	2	2.1
Coteaching status		
ESL co-teaches	90	94.7
<hr/>		

Does not ESL co-teach	5	5.3
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A description of the study's variables is presented in Table 3. None of the variables were remarkably skewed; accordingly, none of the variables was transformed to correct for skewness.

Table 3

Description of Study's Variables and scales

Variable	N	Range	Mean	SD	Skew
Dependent variables					
Coteaching perceptions scale	95	30 to 93	63.84	10.38	-.90
Pull-out perceptions scale	95	12 to 53	32.92	8.03	-.17
Independent variables					
School support	95	22 to 53	37.11	5.99	-.05
Professional development	94	0 to 21	7.56	5.54	.65
Number of classes taught	95	3 to 12	5.89	2.22	.33
Number of teaching partners	95	2 to 20	5.96	4.06	1.11
Student teaching experiences	95	1 to 10	4.96	1.97	-1.02

Creation of scales

Some independent variables were continuous (e.g., school support scores ranged from 22 to 53). Other variables were categorical. When appropriate, several variables were made into nominal variables with their responses being collapsed into categories. For example, number of years teaching started out as categorical variable which was collapsed into a nominal variable (e.g., “1” for 9 years and below and “2” for 10 years and above). Other variables such as gender were created into dummy variables. Dummy variables allow the effect of a category (e.g., male or female) on a dependent variable to be compared.

Several variables were added together to produce multiple scales (see Appendix F for a listing of specific variables that compose each scale). Scales for several independent variables (coteaching, pull-out, school support, professional development, and number of classes taught) were created. In order to test for reliability, internal coefficient alphas for each scale were calculated (see Table 4). Internal alpha coefficients measure if the correlations between items in a scale increase when the individual items increase. It is a way to assess reliability and internal consistency between items.

All the scales showed fair to excellent reliability, using internal alpha coefficients. The Coteaching Perception scale exhibited high reliability ($\alpha = .92$)

while the Pull-out Perceptions and Number of Classes Taught scales exhibited moderate reliabilities ($\alpha = .76$ and $\alpha = .85$, respectively). The School Support scale ($\alpha = .48$) and Professional Development scale ($\alpha = .57$) had fair (but acceptable) levels of reliability.

To study the relationship between key dependent variables (coteaching perceptions, or pull-out perceptions) and the independent variables or scales, regressions were conducted. The regression results then show whether the independent variables had a significant relationship with the dependent variable when a relationship is considered to be statistically significant: that is, when the p-value of the F-statistic is below .05, then the relationship is statistically significant.

Table 4

Internal Coefficient Alphas for Scales

Scale	Item N	Case N	Alpha
Coteaching perceptions	13	90	.92
Pull-out perceptions	10	77	.76
School support	11	89	.48
Professional development	4	94	.57
Number of classes taught	3	95	.85

Relationship between School-Related Variables and Coteaching and Pull-Out
Perceptions

Coteaching Perceptions

A multiple linear regression procedure was conducted in order to determine whether school-based support, professional development, number of content areas taught, number of coteaching partners, and voluntary partnership would be related to coteaching perceptions. Because voluntary partnership was a categorical variable, a dummy variable was created to assess its relationship with coteaching perceptions.

The findings of the regression procedure are presented in Table 5. The means and standard deviations of coteaching perceptions by categorical variable voluntary partnerships are presented in Table 6. As can be gleaned from Table 5, none of the school-related variables` were significantly related to coteaching perceptions.

Table 5

Multiple Regression Analysis of Coteaching Perceptions on School-Related Variables

Variable	Partial r	Tol.	F	Sig.
School support	-.10	.89	.837	.363
Professional development	.00	.94	.000	.997
Number of classes taught	.04	.79	.119	.731
Number of teaching partners	.11	.70	1.042	.310
Voluntary partnership	.10	.97	.866	.355

Model F (5,87) = .650, p = .662

R² = .036

Adjusted R² = -.019

Table 6

Means and Standard Deviations for Coteaching by Voluntary Partnerships

Voluntary Partnership	N	Mean	SD
No	33	62.79	11.84
Yes	60	64.90	9.23

Pull-out Perceptions

A multiple linear regression procedure was conducted in order to determine whether school-based support, professional development, number of content areas taught, number of coteaching partners, and voluntary partnership would be related to pull-out perceptions. Because voluntary partnership was a categorical variable, a dummy variable was created to assess its relationship with coteaching perceptions.

When various items were summed to create the pull-out variable, various items were coded such that higher scores indicated a preference for coteaching and lower scores indicated a preference for pull-out. It is important to note this as this has bearing on how the positive or negative signs of the partial correlation coefficient can be interpreted (explained in more detail later in this chapter).

The findings of the regression procedure are presented in Table 7. The means and standard deviations of the categorical variable voluntary partnership are presented in Table 8. Although none of the school-related variables were significantly related to pull-out perceptions, school support for coteaching was marginally related to pull-out perceptions ($F = 3.765, p = .056$). The negative partial correlation suggests that as school support for coteaching increased, perceptions became more negative. Accordingly, as school support for coteaching increased, there was more positive perceptions of pull-out and less positive perceptions of coteaching. Number of teaching partners was also marginally related to pull-out perceptions ($F = 2.284, p = .073$). The positive partial correlation indicates that as number of teaching partners increased, perceptions became more positive. Accordingly, as number of teaching partners increased, there was more positive attitudes toward coteaching and less positive attitudes toward pull-out.

Table 7

Multiple Regression Analysis of Pull-out Perceptions on School-Related Variables

Variable	Partial r	Tol.	F	Sig.
School support	-.20	.89	3.765	.056
Professional development	.07	.94	.446	.506
Number of classes taught	-.07	.79	.402	.528
Number of teaching partners	.19	.70	3.284	.073
Voluntary partnership	.16	.97	2.221	.140

Model F (5,87) = 1.764, p = .129

R² = .092

Adjusted R² = .040

Table 8

Means and Standard Deviations for Pull-out Perception by Voluntary Partnership

Voluntary Partnership	N	Mean	SD
No	33	31.42	8.28
Yes	60	33.80	7.95

Relationship between Teaching Experience Variables and Coteaching and Pull-Out Perceptions

Coteaching Perceptions

A multiple linear regression procedure was conducted in order to determine whether number of years teaching, types of licenses, experience in other license areas, number of years doing coteaching, and experience with pull-out programs would be related to coteaching perceptions. Number of years teaching was a categorical variable with 6 levels; a new variable was created with two levels (9 years and below versus 10 plus years). Then a dummy variable was generated where the 9 years and below group served as the anchor group. Similarly, number of years spent coteaching was a categorical variable with 7 levels; a new variable was created with two levels (3 years and below versus 4 to 10 plus years). Then a dummy variable was generated where the 3 years and below group served as the anchor group. Experience with a pull-out program was also a categorical variable with 7 levels; a new variable was created with two levels akin to the coteaching experience variable above. Then a dummy variable was generated where the 3 years and below group served as the anchor group.

Initially, a regression procedure with all five predictors was conducted. But because the variable experience in other license areas had several missing values ($N = 59$), a second regression procedure was conducted without this variable. Note, however, that in the initial regression procedure, experience in other license areas was not significantly related to coteaching perceptions ($F = .175, p = .681$).

The results of the regression procedure without the experience in other license areas variable are presented in Tables 9 and 10. As can be gleaned from the table, number of years spent in the pull-out program was significantly related to coteaching perceptions ($F = 5.508, p = .026$). The findings in Table 10 indicate that teachers with three or fewer years of experience with the pull-out program ($M = 66.67$) had significantly more positive coteaching perceptions than teachers with four or more years of experience with the pull-out program ($M = 61.52$).

Table 9

Multiple Regression Analysis of Coteaching Perceptions on Teaching Experience

Variable	Partial r	Tol.	F	Sig.
Years spent teaching	.06	.84	.096	.759
Number of teaching credentials	.25	.83	1.995	.168

Number of years coteaching	-.07	.81	.135	.716
Number of years using pull-out	-.40	.88	5.508	.026
Model F (4,29) = 2.235, p = .090				
R ² = .236				
Adjusted R ² = .130				

Table 10

Means and Standard Deviations for Coteaching Perceptions by Years Teaching

Variable	N	Mean	SD
Years teaching			
9 or fewer	22	65.09	10.38
10 or more	20	62.70	10.87
Years spent coteaching			
3 or fewer	42	62.24	10.96
4 or more	53	65.11	9.81
Years spent using pull-out			
3 or fewer	33	66.67	9.19
4 or more	48	61.52	10.37

Pull-out Perceptions

A multiple linear regression procedure was conducted in order to determine whether number of years teaching, types of licenses, experience in other license areas, number of years doing coteaching, and experience with pull-out programs would be related to pull-out perceptions. Number of years teaching was a categorical variable with 6 levels; a new variable was created with two levels (9 years and below versus 10 plus years). Then a dummy variable was generated where the 9 years and below group served as the anchor group. Similarly, number of years spent coteaching was a categorical variable with 7 levels; a new variable was created with two levels (3 years and below versus 4 to 10 plus years). Then a dummy variable was generated where the 3 years and below group served as the anchor group. Experience with a pull-out program was also a categorical variable with 7 levels; a new variable was created with two levels akin to the coteaching experience variable above. Then a dummy variable was generated where the 3 years and below group served as the anchor group.

When various items were summed to create the pull-out perceptions variable, various items were coded such that higher scores indicated a preference for coteaching and lower scores indicated a preference for pull-out. It is important to note this as this has bearing on how the positive or negative signs of

the partial correlation coefficient can be interpreted (as can be seen in later paragraphs).

Initially, a regression procedure with all five predictors was conducted. But because the variable experience in other license areas had several missing values ($N = 59$), a second regression procedure was conducted without this variable. Note, however, that in the initial regression procedure, experience in other license areas was not significantly related to pull-out perceptions ($F = .132$, $p = .721$).

The results of the regression procedure without the experience in other license areas variable are presented in Tables 11 and 12. Three trends can be gleaned from the table. First, number of teaching credentials was significantly related to pull-out perceptions ($F = 7.189$, $p = .012$). The positive partial correlation indicates that the more credentials teachers accumulated, the more positive the perceptions. Accordingly, the more credentials the teachers had, the more positive their perceptions about coteaching were and the less positive their perceptions were about pull-out.

Second, number of years spent coteaching was significantly related to pull-out perceptions ($F = 6.215$, $p = .019$). The findings in Table 12 indicate that teachers who had experience with coteaching for three years or fewer ($M = 32.81$)

had significantly more positive attitudes towards pull-out than teachers who had experience with coteaching for four years or more ($M = 33.00$).

Third, number of years spent in the pull-out program was significantly related to pull-out perceptions ($F = 7.307$, $p = .011$). The findings in Table 12 indicate that teachers with three or fewer years of experience with the pull-out program ($M = 35.21$) had significantly more negative perceptions about pull-out than teachers with four or more years of experience with the pull-out program ($M = 29.85$).

Table 11

Multiple Regression Analysis of Pull-Out Perceptions on Teaching Experience

Variable	Partial r	Tol.	F	Sig.
Years spent teaching	-.02	.84	.012	.913
Number of teaching credentials	.45	.83	7.189	.012
Number of years coteaching	-.42	.81	6.215	.019
Number of years using pull-out	-.45	.88	7.307	.011
Model F (4,29) = 4.661, p = .005				
R ² = .391				
Adjusted R ² = .307				

Table 12

Means and Standard Deviations for Pull-out Perceptions by Years Teaching

Variable	N	Mean	SD
Years teaching			
9 or fewer	22	35.00	8.43
10 or more	20	31.70	7.34
Years spent coteaching			

3 or fewer	42	32.81	9.05
4 or more	53	33.00	7.20
Years spent using pull-out			
3 or fewer	33	35.21	7.94
4 or more	48	29.85	6.92

The Relationship between Demographic Variables and Coteaching and Pull-Out Perceptions

Coteaching Perceptions

A multiple linear regression procedure was conducted in order to determine whether age, student coteaching experience, level of education, and experience with other professions would be related to coteaching perceptions. Age was a categorical variable with 5 levels; a new variable was created with two levels (40 years and below versus 41 plus years). Then a dummy variable was generated where the 40 years and below group served as the anchor group. Similarly, level of education was a categorical variable with 5 levels; a new variable was created with two levels (Bachelors Plus and below versus Others). Then a dummy variable was generated where the Bachelors Plus and below

group served as the anchor group. Experience with other professions was also a categorical variable with 2 levels; a dummy variable was generated where the “no” group served as the anchor group.

The findings of the regression procedure are presented in Table 13. The means and standard deviations of the categorical variables are presented in Table 14. As can be gleaned from Table 13, none of the demographic variables was significantly related to coteaching perceptions.

Table 13

Multiple Regression Analysis of Coteaching Perceptions on Demographic Variables

Variable	Partial r	Tol.	F	Sig.
Age	.067	.907	.405	.526
Student coteaching experience	-.076	.985	.514	.475
Level of education	.111	.913	1.111	.295
Experience with other professions	.020	.912	.037	.848

Model F (4,89) = .651, p = .628

R² = .028

Adjusted R² = -.015

Table 14

Coteaching Perceptions by Demographic Variables

Variable	N	Mean	SD
Age			
21 to 40 years	41	62.804	11.02
41 and above	53	64.792	9.91

<u>Level of education</u>			
Bachelors plus	29	61.86	12.01
Others	66	64.71	9.54
<u>Other professional experience</u>			
No	22	63.55	13.40
Yes	73	63.93	9.39

Pull-out Perceptions

A multiple linear regression procedure was conducted in order to determine whether age, student coteaching experience, level of education, and experience with other professions would be related to pull-out perceptions. Age was a categorical variable with 5 levels; a new variable was created with two levels (40 years and below versus 41 plus years). Then a dummy variable was generated where the 40 years and below group served as the anchor group. Similarly, level of education was a categorical variable with 5 levels; a new variable was created with two levels (Bachelors Plus and below versus Others). Then a dummy variable was generated where the Bachelors Plus and below group served as the anchor group. Experience with other professions was also a

categorical variable with 2 levels; a dummy variable was generated where the “no” group served as the anchor group.

When various items were summed to create the pull-out variable, various items were coded such that higher scores indicated a preference for coteaching and lower scores indicated a preference for pull-out. It is important to note this as this has bearing on how the positive or negative signs of the partial correlation coefficient can be interpreted (as can be seen in the next paragraph).

The findings of the regression procedure are presented in Table 15. The means and standard deviations of the categorical variables are presented in Table 16. Although none of the demographic variables were significantly related to pull-out perceptions, experience with other professions was marginally related to pull-out perceptions ($F = 3.154, p = .079$). Teachers who did not have experience with other professions had more positive perceptions toward pull-out ($M = 30.14$) in comparison to teachers who had experience with other professions ($M = 33.753$)

Table 15

Multiple Regression Analysis of Pull-out Perceptions on Demographic Variables

Variable	Partial r	Tol.	F	Sig.
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Age	-.085	.907	.643	.425
Student coteaching experience	-.069	.985	.430	.514
Level of education	-.051	.913	.231	.632
Experience with other professions	.185	.912	3.154	.079

Model F (4,89) = 1.229, p = .304

R² = .052

Adjusted R² = .010

Table 16

Means and Standard Deviations for Pull-out Perceptions by Demographic Variables

Variable	N	Mean	SD
Age			
21 to 40 years	41	34.07	8.31
41 and above	53	32.02	7.84
Level of education			
Some master's coursework	29	33.34	8.74
Others	66	32.73	7.76
Other professional experience			
No	22	30.14	9.13
Yes	73	33.75	7.53

Regression Results of Coteaching Attitudes as a Function of Teaching
Assignment

As table 17 indicates, more respondents were ESL teachers than classroom teachers. As the findings in the table 18 indicate, there was no significant

relationship between teaching assignment and coteaching attitudes ($F = .753$, $p = .388$).

Table 17

Frequency Table

Variable	Frequenc y	Percentage
Teaching assignment		
Classroom	37	38.9
ESL teacher	58	61.1

Table 18

Multiple Regression Analysis of Coteaching Attitudes as a Function of Teaching Assignment

Variable	Partial r	Tol.	F	Sig.
Teaching assignment	.090	1.00	.753	.388

Model F (1,93) = .753, p = .388

R² = .008

Adjusted R² = -.003

Table 19 shows the means and standard deviations of coteaching attitudes by teaching assignment. Each mean below is the mean of the perceptions toward coteaching.

Table 19

Means and Standard Deviations for Coteaching Attitudes by Teaching Assignment

Teaching Assignment	N	Mean	SD
Classroom	37	65.00	7.96
ESL	58	63.10	11.67

Regression Results of Pull-Out Attitudes as a Function of Teaching Assignment

As the findings in the table 20 indicate, there was no significant relationship between teaching assignment and pull-out attitudes ($F = 1.281$, $p = .261$).

Table 20

Multiple Regression Analysis of Pull-Out Attitudes on Teaching Assignment

Variable	Partial r	Tol.	F	Sig.
Teaching assignment	.117	1.00	1.281	.261

Model $F(1,93) = 1.281$, $p = .261$

R² = .014

Adjusted R² = .003

Table 21 displays the means and standard deviations for pull-out, for each teaching assignment. There is no statistically significant difference in means for the two groups.

Table 21

Means and Standard Deviations for Pull-Out Attitudes by Teaching Assignment

Teaching Assignment	N	Mean	SD
Classroom	37	34.17	7.98
ESL	58	34.08	8.04

Discussion

In addition to the numerical survey results, co-teachers participating in this study also responded to open response questions, providing qualitative data that extend the findings. These participants elaborated on the viewpoints, and offered additional information that may help explain the numerical survey results, and sometimes serve to complicate those results. For example, one respondent who was enthusiastic about the coteaching model said,

“Collaboration is perhaps the most significant improvement in delivering instruction I have seen in my career.” Another respondent, however, believes the move from pull-out to coteaching has been largely negative. This participant stated, “I long for the days when ESL was pull-out and we had quality relationships with our students and could support them in all ways. I am not convinced collaboration or inclusion is the way to go.” These comments add to an understanding of the complex nature of attitudes toward coteaching.

Coteaching vs. Pull-Out

Because coteaching and pull-out are mutually exclusive program approaches, the attitudinal scale was constructed as a spectrum, with coteaching on one side and pull-out on the other. As respondents indicated a more positive attitude toward coteaching, they also indicated a more negative attitude toward pull-out. Some respondents preferred pull-out, and others saw some value in allowing students to be pulled out as a supplement to coteaching.

Although most participants preferred coteaching, some participants still preferred pull-out; the participants’ open responses elucidated reasons why they preferred pull-out. One teacher worried that coteaching will bring the end of ESL instruction; that by losing a dedicated space and time, ELLs have become lost in the mainstream. This may eventually result in the ranks of ESL teachers being

reduced. She hoped that “collaborative teaching and the various approaches to it don't become the end of all of ESL instruction.” Another participant stated that with pull-out, ESL teachers had closer relationships with students, and provided more support. She said, “I still support pull-out for ELLs, simply for the fact that they have a safe, nurturing place to learn. I am not convinced the ‘research shows collaboration is better’.”

One teacher saw coteaching as a fad, and assumed that pull-out will return eventually. She said, “Coteaching in the room will be ‘in’ for 20 years in SPPS.”

Other participants preferred coteaching, but saw some value in some aspects of pull-out. They saw a need for a hybrid between true pull-out and coteaching, allowing some students (high-need students such as newcomers) to be educated in a separate space with some communication and collaborative planning. One participant said:

While I advocate coteaching, there are also times when a few students need instruction on specific language skills that time is not allotted for in the regular day. I think the best instruction for ELLs is a flexible combination of both.

These study participants argued that a space away from native-speaking peers provides nurturing place for ELLs to take risks, and that language concerns can be more efficiently addressed in a separate time and space.

Teaching Assignment

Before beginning this study, I assumed the attitudes of ESL teachers toward coteaching would be more positive than the attitudes of general education teachers. The coteaching initiative began in the ESL department, and most ESL teachers spend a greater portion of their days coteaching. Surprisingly, there was no significant difference in attitudes toward coteaching and teaching assignment between ESL teachers and general education teachers. Both groups may have seen improvement in instruction and students, brought about by collaborating with colleagues. Even though there was no difference in attitudes as measured by the scales, teachers reported differences between the two groups in the open responses. Equity and shared ownership are seen by researchers as important for the success of coteaching (Friend & Bursuck, 1999; Dieker, 2001; Pugach & Johnson, 1999). ESL teachers report greater pressure to make coteaching work, and lower status in the classroom (Creese, 2001 as cited in Arkoudis, 2006; Arkoudis, 2006). Differences in opinion and tension between ESL teachers and general educators have been mentioned by teachers responding to

the open response questions. A teacher who is currently an ESL teacher, but with past experience as a classroom teacher, felt the impetus is on the ESL teacher for a collaborative partnership to succeed. She stated:

Having been a classroom teacher really helps me to know what their experience is and helps me to work with them, or sometimes, helps me to understand why the person might have a hard time collaborating and I don't need to take it personally - but I still need to be the one who makes the greater effort to make it work.

If ESL teachers feel pressured to make situations work, without their counterparts making an equal effort, tension in partners may arise.

Another ESL teacher worried about the lower status the ESL teachers holds in the classroom:

The other danger of coteaching is that the ESL teacher functions as a highly educated aide. ESL teachers need to be respected as much as classroom teachers. I have seen ESL teachers less respected in coteaching situations and many times they are more experienced and have a higher level of education.

One ESL teachers felt that “ESL teachers are seen as support for the classroom teachers and not as professionals who have an opinion on what will best increase

student learning.” Another teacher phrased this lower status as: “The Saint Paul classroom teachers have continued to believe ‘Do it my way in *my room*, or else!’” Other teachers cited physical reminders that they were not equal partners in the classroom, but as visitors to another’s classroom. One participant stated:

I don't always get a proper teaching space in some of the classrooms (not consistent and without board or supplies access). I often have to select an available corner randomly--either the floor, or put students' desks together to create an impromptu teaching space.

This marginalization of the ESL teacher may also marginalize ELLs who do not work at permanent work sites such as a table, whereas their native speaking peers do.

Some teachers were concerned with their partner’s academic background in content areas such as reading. One classroom teacher stated:

My experience has been that many ESL teachers who have been placed in regular classrooms to co-teach reading are not really trained to teach reading. They are not able to share equally in the preparation and execution of lessons because they don't have the background or skill. It becomes a lot of extra work for the regular teacher.

This teacher's experience may highlight the difference in training between ESL and general education teachers, as well as a difference in roles. General education teachers are trained in content instruction, and ESL teachers are trained in weaving language objectives into instruction (Mabbott & Strohl, 1992). The role of the classroom teacher should be to drive content, and the role of the ESL teacher should be to focus on language acquisition. The different educational backgrounds and roles (content versus language) of the two teaching groups could be a benefit to students as jointly planned lessons may be more likely to have strong language and content objectives.

School-Based Factors

School with structures that support coteaching, according to a scale of key markers of school-based support, had less-positive attitudes toward coteaching, and more positive ones toward pull-out. This finding, interestingly, contradicted the comments written by respondents in the open-response fields. School-based factors include administrative support, voluntary partnerships, and reassigning of teachers as substitutes.

Researchers often write that administrative support is the key for the success of coteaching (Austin, 2001; Petrie, 2001; Risko & Bromley, 2001).

Respondents also tended to cite administrative support as a key variable in the

success of coteaching. The instrument measured markers of administrative support, yet this did not directly measure the quality of this support.

“Administrative support is key. If your principal does not support collaboration, it is hard to make it successful,” wrote one participant. These participants stated that schools need a hands-on administrator who can reassign partners and mediate if there are issues. Participants who have switched buildings noted that administrative support makes or breaks the coteaching. Other participants encouraged principals to be more active in evaluating coteaching. One respondent suggested “that principals do more checks on how collaboration is working and how much are teachers involved in it through informal observations in classrooms during coteaching time.”

The results of the survey indicated that higher school-based support was not correlated with more positive attitudes toward coteaching, yet the participants’ open responses called for more school-based support. The instrument included questions asking about the presence of markers of school support, such as an administrator discussing coteaching with staff, or giving tactical support to coteaching partners. The instrument also included questions about the frequency of these markers, and the importance of these components of school support. No question in the instrument asked about the quality or depth

of this support. Principals may talk about coteaching, for example, but not be able to discuss coteaching in a deep and meaningful way. Surface support may not satisfy practitioners, and may have been perceived as increased pressure. Some administrators may create a safe and supportive work environment, in which collaboration is easier. Other, lesser skilled administrators may make it difficult to work collaboratively. Further research will be needed to more fully answer these questions.

Voluntary partnerships were not a predictor of positive attitudes toward coteaching, yet they were deemed important by researchers. In addition, several participants mentioned the importance of voluntary partnerships in open responses. Voluntary partnerships are seen by some educational theorists as the most important variable in coteaching (Friend & Bursuck, 1999; Hourcade & Bauwens, 2003; Risko & Bromley, 2001; DiPardo, 1999; Redditt, 1991). Yet voluntary partnerships did not register as a statistically significant factor in coteaching. Many respondents did see voluntary partnerships as important. One respondent stated:

Coteaching with another person should be a choice. No one should ever be forced to do if they don't want to. It will not be positive experience if

one person is not in favor of doing it. They also must be able to choose with whom they want to team.

Although voluntary participation and partnerships was not a statistically significant factor in teacher attitude, it was a factor deemed important by respondents who replied to the open-response questions. These teachers preferred partnerships which were not forced, and would have liked partnerships to be created with input from all teachers in a more open and transparent process. In a district in which roughly a third of students are ELLs, it may be difficult to create a coteaching program in which all partnerships are voluntary.

One factor related to school support for coteaching is the practice in some schools of removing ESL teachers from the classroom to substitute for classroom teachers. This can have a cumulative loss to support for ELLs over time. One participant wrote, "Our principal sees ESL teachers as substitutes. She will not reassign special education teachers, but will not hesitate using ESL teachers to cover classroom teachers when they are absent or at meetings. This is a huge problem." In addition to the loss of support for ELLs, the coteaching relationship can suffer. The classroom teacher may not be able to trust that the

ESL teacher will be in class on any given day, and may not be able to rely on the ESL teacher.

Experience in Pull-Out and in Coteaching

Experience tended to be associated with preference; people tend to prefer what they know best. Fewer years teaching in pull-out programs was correlated with more positive attitudes toward coteaching. Because many teachers with less experience in pull-out are newer teachers, it may be possible that some of them may have been hired with the expectation that they would co-teach, or simply may tend to be more willing to try new approaches. One respondent reported an increase in the success of coteaching over time.

The more years spent teaching in a pull-out program was associated with a more negative attitude toward coteaching (and a more positive attitude toward pull-out). This may be due to a comfort teachers had with the pull-out model. Perhaps planning lessons alone and then delivering them is less work than negotiating with a colleague. It is likely that the teachers who taught longer in pull-out programs were more familiar with the benefits of pull-out, and more concerned with the drawbacks to coteaching, or just resistant to change. More years coteaching (four or more years) was associated with more positive

attitudes toward coteaching. Many educational researchers have said that coteaching improves over time, and that time may be the most important factor (DiPardo, 1999; Friend & Bursuck, 1999; Pugach & Johnson, 1999).

Teachers likely improve over time, and build more strategies for helping students and working with colleagues. One respondent felt coteaching is improving over time district-wide. She said:

Coteaching was kind of handed down from above in this district, and was not handled well, in the beginning, but I think that people (ESL and general education staff, plus administrators) are gradually coming to an understanding of and appreciation for the benefits of collaboration.

Number of Coteaching Partners

As teachers co-taught with more people concurrently, they demonstrated a more positive attitude toward coteaching. This runs contrary to the research and theory presented in the literature review, where it was considered best practice to have three or fewer teaching partners at the elementary level (Mabbott & Strohl, 1992; Risko & Bromley, 2001). Respondents reported frustration with a lack of time, and difficulty scheduling (Redditt, 1991). These are two issues that are often caused by a large number of coteaching partners.

Common planning time may be facilitated with a decrease in the number of grade levels any one ESL teacher works with at a given time.

People who are more positive toward coteaching may have sought out more partners. Some teachers who preferred pull-out may have only co-taught with one partner in order to satisfy the mandate without fully committing to the approach. The teachers with positive attitudes may have taken on more partners. In addition, if one teacher partners with several people, there is a greater likelihood that at least some of the partnerships will be enjoyable.

Only 14.2% of participants had 6 or more partners. In scheduling a day, there are usually five usable instructional hours in schools (after time is taken out for preparation and meals). Five or six partners may be easy to schedule (one class per fifty minute block) whereas seven or more may be more difficult. With this larger number (7 or more) of coteaching partners, 66% said that the number of partners made it impossible to equitably share responsibilities, and 33% said that coteaching was nearly impossible to do in their current situation. Even though teachers with a large number of partners believe in coteaching strongly, it may lead to higher levels of stress and lower levels of effectiveness.

In addition, some of the ESL teachers with fewer coteaching partners were Language Academy (LA) teachers. LA teachers teach newcomers who tend to

have little to no literacy in their first language. According to Duke and Mabbott's (2001) research, the Saint Paul Public Schools' coteaching initiative began with LA students. Even though the initiative was born with LA, this population may present special challenges. Because these students are far behind their age-level peers in language and often academics, they may present specific challenges in coteaching not shared by ELLs who are not newcomers. Because many LA students have experienced disrupted educational backgrounds, they often are academically behind their native-speaking peers. Although no questions on this instrument directly addressed if teachers were LA teachers, it did ask if there was an LA program at the teacher's school. The responses of teachers in LA schools did not appear discrepant from the responses of other teachers, yet personal conversations with a LA teacher suggest that the unique challenges of this population may make collaboration especially difficult.

Some LA teachers argued that their students should spend some time being taught in a separate space, but still involving collaborative planning, and collaborative class time as well. Some researchers agree that for some students, including newcomers, time away from peers could be helpful (Adams & Cessna, 1991; Dieker, 2001; Harper and Platt, 1998; Mabbott & Strohl, 1992). One teacher wrote, "However, there is a need to have some pull-out time...especially for new

immigrants who are extremely behind their peers and need more oral English language development.” Further research on coteaching and newcomer programs could help clarify this issue.

In the comments from participants, teachers often cited lack of time and scheduling as being two major barriers toward effective coteaching. Fewer teaching partners may improve scheduling problems and aid in equitable distribution of work between coteaching partners (Mabbott & Strohl, 1992; Pugach & Johnson, 1999; Risko & Bromley, 2001). Participants reported that ESL teachers are currently spread too thin. There was not enough time to do coteaching well (let alone time to eat lunch, prepare lessons, or discuss pedagogy with other ESL team members). Careful planning for ELLs early on in a school’s scheduling process may alleviate scheduling issues so that a small number of ELLs do not leave one ESL teacher to be spread across seven or more classes in seven grades (Jordan Rea & Connell, 2005). A school’s schedule is set by building administrators. Therefore, administrative support is key as discussed previously.

A component of scheduling is common planning time. Common planning time was seen as very important by several respondents, and by educational researchers (Friend & Bursuck, 1999; Hourcade & Bauwens, 2003; Pugach & Johnson, 1999; Risko & Bromley, 2001; Vaughn, Schumm, & Arguelles, 1997).

Administrators need to make this time the highest priority when planning a school's schedule (Jordan Rea & Connell, 2005). In addition, fewer grade levels or coteaching partners may facilitate more time for common planning. "In order for collaboration to be most effective, ESL teachers and mainstream teachers need a common planning time. ESL teachers also need fewer grades to collaborate with so that true collaboration can happen," said one participant. Yet this common planning time cannot happen without the support of a school's administrative leadership. Another respondent noted, "Co-planning time is crucial for success in the collaborative model. It should be institutionally supported and honored."

Professional Development

In the survey data, another variable that was not related to a positive attitude toward coteaching was professional development, however, educational researchers feel professional development is extremely important (Austin, 2001; de Leeuw, 2000; Petrie, 2001; Bricker, 1995 as cited in Platt & Harper, 1998).

Participants expressed a need for professional development related to coteaching, yet found it challenging to attend training during the school day.

Many participants expressed a desire for the district to bring back targeted training in coteaching, including the three-day district training no longer offered. One teacher said, "In the past, coteaching training classes were provided by the

district. These classes, however, have not been provided since I started coteaching.”

One teacher stated that the quality of training may have been one reason why training did not register as important:

The training in Spring of 2006 spent a half day on a vocabulary teaching book, the strategies of which are way beyond where the LA students are and did *not* address sharing space, materials, respecting ESL teachers as teachers rather than mere assistants... that the classroom teachers do not ‘own’ the room, the class, and the decision-making.

Other participants were frustrated with the difficulty of attending professional development during the school day. The professional development that was previously offered was designed for an ESL teacher to attend, and the ESL teacher had to select only one coteaching partner. Both teachers were required to plan for substitute teachers, yet the substitutes of ESL teachers were often reassigned to other positions. The difficulty of attending professional development during the day could have offset any perceived benefit from the training. One participant said:

One issue that needs examination is *when* planning and training for collaboration occurs. Pulling teachers away from the classroom for

training and planning is counter productive and serves as a disincentive. Planning well for a sub knowing that your co-teacher won't be there is nearly impossible. Adding to that anxiety and workload is the fact that if the ESL teacher does manage to get a substitute teacher, the substitute will almost certainly get pulled to cover a regular education classroom. Typically the district schedules trainings that pull multiple teachers on the same day, which increases the sub shortage consequences. There has to be a summer or after school incentive program for teachers that really values their time.

Experience

Experience teaching in other license areas is not significantly related to coteaching perceptions, but those with more teaching credentials did have a more positive attitude toward coteaching. It is possible that some teachers may have taught in other areas under license variances without receiving teaching credentials in that area. In addition, teachers with professional experience outside the field of education had more positive views toward coteaching.

The philosophical context learned in licensure programs may develop a more open mind in teachers more than just working in another area. The academic preparation for a teaching license allows a teacher to build a theoretical

framework for the teaching context, as well as learn about best practices through reading research.

Teachers who previously worked outside of education had more positive attitudes toward coteaching. This may be because many other fields have adopted a collaborative team approach including joint projects and team orientation before education did. Perhaps experience in these collaborative work experiences led other-career professionals to see the benefits of coteaching. It could be that teachers who have experience in other fields were more iconoclastic and innovative. These individuals may simply be more open-minded toward different teaching approaches.

Personality

Personalities may be another factor that should be examined, but was not included in my survey. Nevertheless, several participants mentioned that personality is an important component to coteaching. Compatible personalities may be helpful, open styles of communication, and a positive attitude. Participants stated that mutual respect is also very valuable.

“Coteaching is extremely dependent on personalities. Your survey is good but didn't leave me room to address the differences in personalities that greatly affect decisions made.” It is important for teachers to have open communication

and personalities compatible in order to work together. Teachers should have compatible teaching philosophies (Bruneau-Balderrama, 1997). One teacher stated:

Coteaching is a wonderful model in theory. It is a very difficult model to implement for a variety of reasons. It has to be almost a perfect situation to work, including the teachers that co-teach to be very similar in teaching styles and the ability to get along.

Another respondent agreed about the importance of a teacher's style and openness to communication. This respondent wrote:

For collaboration a lot depends on the individual teachers working together and their styles. A lot of our collaboration is about communication- talking about what we notice about students' growth, challenges, needs, etc. We share responsibility for students' learning so we need to communicate regularly about what students need and how to move them to the next level and help them in reading and writing.

An attitude that is positive toward coteaching was noted as very important by some participants. One noted:

Collaborative teaching seems to be most effective when the mainstream teacher and the ESL teacher is flexible, adaptable, and open to

collaboration. If either teacher do not carry a positive outlook on collaboration, the rapport between them will be poor, and students can sense these things.

Another said, “the co-teacher (must) believe in the collaboration model for it to work.”

In the ideal coteaching situation, there is parity between the co-teachers (Friend & Bursuck, 1999; Risko & Bromley, 2001). Both teachers may respect each other and support one another. One classroom teacher, in particular, was enthusiastic about the ESL teacher with whom she works. “My ESL co-teacher is much more comfortable teaching reading and writing. The kids think she walks on water and will dig deep and work to impress her. I am just their regular teacher,” she said.

Conclusion

This survey research on coteaching between ESL teachers and general educators revealed several findings which were surprising to me, and many other findings that may be an important base for future research on collaborative coteaching. This survey employed a random, stratified sample in order to increase the probability that the sample would be similar to the population. The participants of this study are similar to the district average in years of experience

and education level. A majority of participants held an advanced degree (Master's degree, Master's Plus, or professional degree), and the district average for advanced degrees is 66.5% (Minnesota Department of Education, 2006). 52.4% of participants have been teaching for 9 years or fewer, and 44.6% of the district's teachers have been teaching for 9 years or fewer. 47.6% of participants have been teaching 10 or more years, and 55.4% of the district's teachers have been teaching for 10 or more years. 94.7% of participants currently are involved in ESL/general education coteaching.

This chapter described the results of my research of an urban public district on ESL/general education coteaching; the results were based on the following research questions: Do co-teachers have positive or negative attitudes toward coteaching? What factors are correlated with these attitudes? The results of the study are described in detail earlier in this chapter, but a summary of the results follows. For this study, five scales were developed, and multiple linear regression analyses were conducted in order to answer these research questions. Coteaching Perception scale exhibited high reliability ($\alpha = .92$) but the Pull-out Perceptions scale only exhibited moderate reliability ($\alpha = .76$). The School Support scale ($\alpha = .48$) and Professional Development scale ($\alpha = .57$) had low reliability but the Number of Classes Taught scale had moderate reliability ($\alpha =$

.85). As school-support increased, there was more positive support for pull-out, and less positive support for coteaching. A higher number of coteaching partners related to a more positive attitude toward coteaching. Experience in other license areas was not significantly related to coteaching perceptions, but number of teaching credentials was related to perceptions of coteaching: the more teaching credentials held by the teacher, the more positive their perceptions of coteaching. Teachers with three or fewer years experience with pull-out programs were more positive to coteaching than teachers with four or more years of experience in pull-out programs. In addition, teachers who have co-taught for three years or less were more positive toward coteaching than those with four or more years of coteaching experience. No demographic variables (age, level of education, student teaching, and experience within other professions) were significantly related to coteaching perceptions. Teaching assignment (ESL vs. general education) was not significantly related to coteaching perceptions.

The final chapter discusses the need for future research, and policy implications are also discussed in the next chapter.

CHAPTER FIVE: CONCLUSION

Ideally, ESL and general education coteaching elevates the level of teaching and allows for ELLs to be educated without the stigma of being singled out, as in pull-out programs where ELLs are pulled out of class into another room. Yet, did teachers engaged in coteaching feel coteaching lives up to its promise? Did teachers feel it could be improved on? What improvements did teachers recommend?

Overview of the Study

In order to deepen and extend the limited amount of research available on ESL coteaching in the general education classroom, I conducted survey research to address the following research questions: What attitudes do co-teachers have toward coteaching? Why do they have these attitudes? What factors correspond to these attitudes? To answer these questions, I selected Saint Paul Public

Schools, an urban district in which many teachers engage in ESL/general education coteaching. My survey investigated which factors affect the attitudes of SPPS public elementary general educators and ESL teachers on ESL/general education coteaching. These factors include basic demographic characteristics, a teacher's educational background, professional development, and teaching experience.

The instrument was modeled in part on Austin's 2001 survey on special/general education coteaching. Many questions were revised and others added to more fully address ESL/general education coteaching. The instrument was revised and edited using a two-part pilot process. The first part of the pilot study focused on the content of the instrument, and involved district-level teacher-coaches who have ESL and general education backgrounds. The second part of the pilot study focused on the clarity and ease of use of the on-line instrument, and involved educators from other districts. Data collection involved e-mailing ESL and general educators with an invitation to participate in the on-line survey. The data was analyzed using Statistical Software for the Social Sciences (SPSS), using multiple linear regression procedures.

Summary of Key Findings

Participants overall favored coteaching over the alternative, pull-out. Coteaching and pull-out were placed on a scale, in which participants were more positive toward one or the other, and participants tended to be more positive toward coteaching than toward pullout. For example, 84.2% of respondents agreed that students benefit from a co-taught classroom more than a pull-out classroom. Some ESL teachers worry that ELLs are getting lost in the general

education classroom, and feel that some instruction away from native-speaking peers is helpful.

One factor which was not correlated with a more positive nor negative attitudes toward coteaching was a teacher's teaching assignment (ESL or general education). Participants from ESL and general education were more alike than different; differences in teaching assignment were not correlated with a difference in attitudes toward coteaching. At the same time, some ESL teachers reported a lower status in the classroom, yet feel more pressure than general educators to make coteaching work.

Other factors were associated with more negative attitudes toward coteaching. Educational researchers have identified school support (such as administrators discussing collaboration with faculty) as an important component for a school's success in coteaching. Yet, in my study, teachers in schools with a higher measure of school support for coteaching had less-positive attitudes toward coteaching, and more positive attitudes toward pull-out. At the same time, some teachers reported that administrative support was paramount to a successful coteaching program. Teachers who had taught longer in pull-out programs had more negative attitudes toward coteaching (and more positive attitudes toward pull-out).

Several components are associated with a more positive attitude toward coteaching. Teachers who co-taught with more partners tended to be more positive toward coteaching. Teachers seem to trust what they know; teachers who have co-taught longer were more positive toward coteaching. A wider variety of professional experience including careers other outside of education, and additional teaching credentials also yielded more positive attitudes toward coteaching.

Limitations

In all studies there are limitations to be aware of, and there are several limitations in this study that may have affected findings. The final sample size was small, because the response rate was 27% (n=97). One reason for the lower-than-expected response rate was due to a technical glitch. Originally, invitations were sent out using software that could track respondents. This approach worked fine during a test run with an educational technology specialist, but the approach had to be changed, because the district's spam filter would not allow e-mails to reach respondents if it was sent through the survey software. Instead, e-mails were sent through the district's e-mail service, which didn't allow me to track respondents. Although this offered further protection of anonymity, in effect, this created an anonymous situation in which I could not contact

respondents who had not completed the survey, and respondents who had been interrupted in the course of completing the survey could not finish without starting again, for technical reasons.

Another contributing factor to the number of respondents was the length of the instrument, which was prohibitive given the workload of today's K-6 teachers. The pilot group indicated the length of the instrument was appropriate, but subsequent contact with participants indicated that many found the length prohibitive. Nevertheless, the results of this survey are robust and thought provoking.

Recommendations

Although Saint Paul teachers held mostly positive attitudes toward the coteaching models, they did feel coteaching could be improved. Based on the findings of the survey, and the open responses supplied by respondents, there are several ways in which ESL and general education coteaching can be improved.

Number of Coteaching Partners

Overall, the higher number of coteaching partners, the more positive people tended to be about coteaching. Even though a high number of coteaching partners is correlated with a positive attitude toward coteaching, the open

responses indicated that many coteaching partners does not necessarily cause a more positive attitude. Therefore, it would be inadvisable to change number of coteaching partners of each co-teacher, at this time. Rather, we should understand why this might be before making any changes.

It is possible that coteaching efficacy may be increased with five or fewer partners. Numbers of partners over five may yield fewer minutes of service per ELL, and an inability to schedule planning time with all partners. Careful placement of students in classrooms could reduce the number of partners slightly without resulting in classrooms linguistically and ethnically unbalanced. Because a school day in this district has roughly 5 hours of instructional time after lunches, recesses, and preparatory periods, the maximum number of coteaching partners should be five, and fewer for teachers of newcomers. By having fewer classes to attend, an ESL teacher could spend more time providing service to each student, as well as more carefully planning the instruction in each class.

There may be steps that schools can take to mitigate the negative effects of a large number of partners. Principals can reduce the number of planning meetings by requiring co-planning by grade level. In schools with ESL teachers spread across many grade levels, some planning could be done by grade level

bands: First and second grades may have similar standards and objectives and could have similar activities. This can be an efficient way to increase co-planning while decreasing the number of meetings any one teacher needs to attend.

School-Based Factors

Although voluntary partnerships did not register as significantly correlated with positive attitudes, voluntary partnerships are preferred by respondents in the open-response questions. Thus, when possible, people should be allowed to choose with whom they work. Even though this is not associated with a higher attitude toward coteaching, it may create a more positive attitude toward one's partner. Partners who have a positive impression toward one another may be more likely to spend time planning instruction, and reflecting and improving their coteaching relationship. In addition, students may learn about cooperation if both adults are getting along well.

Although school-related factors (such as planning time) did not change how teachers felt about coteaching, it did contribute to frustration in some participants. Many teachers were concerned about having sufficient time to co-plan. Time to plan, and structures to encourage planning likely impact the effectiveness of the model, and prevent the ESL teacher from become a teacher's aide. Schools should provide time for collaboration between ESL and general

education colleagues. This time could be creatively provided for by scheduling preparation hours during the day, and by allowing time for co-teachers to collaboratively plan during professional days. Schools could pay staff extra to spend a whole day planning in the summer or weekends.

Professional Development

Current professional development was not significantly related to positive attitudes. The professional development that the district had done in the past may have possibly improved teacher efficacy, even though it did not change teacher attitudes. There may be other forms of professional development that may more deeply impact teacher attitudes, for example, professional development with peer coaching. Although it did not impact attitudes, teachers felt professional development is important and asked for a return to professional development on coteaching, and university classes that included coteaching. Training should include both classroom and ESL teachers, not just ESL teachers, and include discussions on educator equity within the classroom. Some practical tips recommended by participants were that classroom teachers create an area for the ESL teacher to teach small groups, and establish norms on how materials may be shared. If possible, these trainings could happen before or after school so that teachers do not have to plan for substitute teachers, and that students will

not miss time with their students. If possible, teachers could be paid extra for this time, allowing teachers to subsidize extra childcare, and allowing the district to demonstrate that they value the teacher's time.

Experience

Positive coteaching attitudes were associated with more years of practice. The passage of time and more years of practice may have been enough to create a more positive attitude toward coteaching. With the rate of change of educational programs and initiatives, initiatives are often abandoned before their full impact could even be measured. Therefore, it would be important to study the long-term effects of coteaching.

Many ESL teachers and general education teachers are experienced in coteaching, and these experienced co-teachers have a more positive attitude toward coteaching. It would be beneficial to pair these experienced and enthusiastic co-teachers with any teachers new to coteaching; this may shorten the time it takes to learn coteaching. When the new co-teachers are also new to the teaching profession, the coteaching partner may play the role of informal mentor. This may reduce the feelings of isolation and increase a sense of collegiality in teachers (Pugach & Johnson, 1999). These experienced co-teachers may employ strategies to create successful partnerships.

In addition to getting new teachers trained in coteaching quickly, hiring decisions could be colored by collaborative attitudes as well. When possible, new positions could be filled with ESL teachers and general education teachers who have experience working collaboratively by asking situational questions about collaborative experiences in interviews. Since coteaching is an initiative started by the ESL department, ESL hiring decisions may have been more colored by expressed commitment toward coteaching than general education teaching hiring decisions. Experience with and openness to coteaching should also be a factor in general education hiring decisions as well.

Additional Research

With more districts using coteaching as way in which to serve ELLs, the federal and state education boards and institutions of higher learning should do additional research to ensure this is an effective way to meet the provision for ESL education under *Lau v. Nichol*. My research provided a window into the attitudes of co-teachers on coteaching, at one point in time, in one geographic place. Replication of this study in the future would allow researchers to determine how attitudes toward coteaching change over time. In addition, researchers could replicate this study in another geographic area to see if there

are regional differences in attitudes. This additional research would overcome the limitation of a small sample size.

Several of the more surprising results should be studied more in depth. Why might schools' support toward coteaching be associated with less-positive attitudes toward coteaching? Why might a larger number of coteaching partners be correlated with more positive attitudes toward coteaching? Why might experience in other license areas not be significantly related to coteaching perceptions, whereas more teaching credentials were? Why might teachers who have experience with other professions outside of education have more positive attitudes toward coteaching? And, finally, what personality factors might lead to successful partnerships?

Although this current study's window into the views of co-teachers is interesting, it does not directly examine the effectiveness of coteaching. There is a great need for research in the efficacy of coteaching in improving the achievement of ELLs. Saint Paul Public School officials cite coteaching as the source of strides toward limiting the achievement gap, but new reading and writing models were adopted at the district level, so it would be difficult to know which change was most responsible for increases in academic achievement. Quasi-experimental research to determine the effectiveness of coteaching versus

the effectiveness of pull-out would be beneficial. Another helpful research direction would be looking at the effectiveness of coteaching with other curriculum models (as opposed to the Reader's Workshop and Writer's Workshop model employed in this district). In this way, we could begin to understand if the district's success is based primarily on coteaching, the curricular model, or, more likely, in the interplay of both coteaching and the curricular model.

It would be interesting to do a comparative study on the quality of coteaching at many schools. This could examine some of the factors that did not impact attitudes, and see if they seemed to impact coteaching quality. For example, lack of administrative support in scheduling could make it difficult to have a successful coteaching program. A larger number of coteaching partners could allow for fewer minutes supporting a student's class, and lead to fewer gains by the student.

In addition, it would be important for the district to study the actual use of teacher time to ensure that both teachers are being employed with the highest possible efficiency to have the greatest impact on ELLs. One respondent stated, "Targeted collaboration needs to be explored. For example, the ESL teacher does not need to be in the room to listen to a mini-lesson. Instead, she may come in

when guided reading groups begin. Two teachers both running tight guided reading groups is powerful and a good use of teacher time.” Further study of efficient use of teacher time, could lead to changes that could offer more support for ELLs.

Dissemination of Results

This research may be of interest to the district I studied, as well as educators in other K-12 school districts. I will submit a summary of my study to the Saint Paul Department of Research, Evaluation, and Assessment. I will also submit this summary to the district’s director of English Language Learners, and hopefully present my results to her department. I will send this summary to seven participants who have requested a summary of this research. Because coteaching is an emerging trend in the field of ESL, there may be professionals outside my district who would also be interested. For this reason, I plan on submitting a proposal to present this paper at the MinneTESOL conference in November, and also submit an article based on this research for the MinneWITESOL Journal. In this way, I hope to expand the scholarly and professional dialogue about coteaching in the ESL context.

Conclusion

In examining the attitudes of ESL teachers on the collaborative coteaching model, it appears that the approach is promising, but not without drawbacks. It does appear teachers appreciate the approach more with each passing year, as has been my experience. My first years of coteaching were filled with starts, stops, awkward attempts, and a nagging feeling that the students may need more time away from their peers with general education-driven lessons. In fact, in my first year coteaching, some portions of my teaching were in a pull-out environment, focused on overt teaching of phonics and vocabulary. Communicating with all eight coteaching partners was impossible; I was often not informed about events such as field trips. I did not know what classroom teachers were teaching, and did not have any input. I was new to elementary teaching, and my more experienced colleagues were new to teaching collaboratively. We learned by trial and error.

In my fourth year, coteaching is much stronger. We were able to reduce the number of coteaching partners; I now have five. My coteaching partners and I consistently plan lessons jointly with me each week in grade level groups, resulting in only two planning meetings a week. We each seek each other's input on curriculum, assessment of students, and techniques to help students. I see faster improvement in my students, and an increased participation of ELLs in the

general education setting, as well as decreased frustrations of general educators with ELLs. Part of this transformation was brought about by district ESL professionals, who trained staff and administration on coteaching, and reduced the number of coteaching partners. The rest of the transformation is due to hard work with my coteaching partners discovering what works, and finding harmony working together for the students. In addition, the in-depth study of coteaching associated with this Capstone has allowed me to more fully understand the theoretical background of coteaching. My attitude toward coteaching has become more positive, along with the attitudes of my colleagues.

APPENDIX A
Informed Consent

APPENDIX B
Debriefing Page

APPENDIX C

Text of Capstone Website

Appendix D
Instrument Terminology Notes

APPENDIX E

Coteaching Perceptions Questionnaire

APPENDIX F
Creation of Scales

You have been randomly selected to participate in a research project studying coteaching and collaboration between classroom teachers and ELL teachers in the St. Paul Public School District. Your input is valuable, because not much is known about collaborative teaching, a key educational issue. This survey's purpose is to learn from your collaborative teaching experiences, in order to help improve teaching practices.

This survey research is for St. Paul Public Schools' teacher Stephanie DeFrance's Capstone for an MA in ESL at Hamline University. St. Paul agreed to cooperate in this research, and Hamline approved use of human participants. Please read this screen. You will indicate your informed consent below.

- Your privacy is ensured. All identifying information will be kept separately from your responses, and will be destroyed within two months.
- Your participation is voluntary, and you may exit at any time.
- The results of this research will be available at Hamline's Bush Library. It may be published, reported at a conference, or reported to the district.
- This survey should take approximately 30 minutes.

You may contact me at 651-260-9090 or at stephanie.defrance@spps.org for questions, or to request research results. This contact information will be displayed again. For questions about your rights as a research subject, contact Ann Mabbott at Hamline University. If you read the above information, and agree to participate in this survey, please select "Yes" below. If you do not give your informed consent, please select no.

Thank you for completing the survey!! All the data you just provided will be kept in a confidential and anonymous manner. Your name will be kept separately from your answers, and destroyed within two months. The purpose of this study is to improve coteaching (collaboration). Please e-mail me at sdefrance01@hamline.edu if you have questions, or would like a summary of the results (available October 2007). Thank you again for your participation. Now, it's time to submit your answers. Please select "yes" below if you would like to submit your answers. Please select "Exit Survey" in the top right corner if you would like to withdraw your participation at this time.

Thank you for completing the survey! You have added to the scholarly discourse on coteaching (collaboration). All the data you just provided will be kept in a confidential and anonymous manner. Your name will be kept separately from your answers. If you have questions about this survey, please e-mail me. If you would like a copy of the results (available October 2007) you may e-mail me as well: sdefrance01@hamline.edu

The instrument uses Classroom Teacher because it is more clear for teachers, but this term suggests that ESL teachers do not work in classrooms, so the more descriptive General Educator will be used in the remainder of this project. Also, it is important to note that in this district, they use ELL to denote both English Language Learners, and also describe teachers specializing in

teaching them (i.e. “ELL Teacher”), but ESL is more commonly used in this usage. “Collaboration” is the term used for coteaching in this district, even though it can be confusing as collaboration also refers to other forms of working together such as in grade level teams where instruction is not jointly delivered. I will use coteaching to be more specific, but define the term, where possible. “One teach/one support approach” is used in this instrument for the same reason.

SECTION ONE: INFORMED CONSENT (See Appendix A)

1. If you read the above information, and agree to participate in this survey, please select "Yes" below. If you do not choose to give your informed consent, please select "No."

SECTION 2: PARTICIPATION IN COTEACHING: Coteaching is when two teachers work together, sharing responsibility for the planning and execution of instruction.

	Yes	No
2. Have you employed coteaching?	<input type="checkbox"/>	<input type="checkbox"/>
3. In an average week, are you involved with coteaching?	<input type="checkbox"/>	<input type="checkbox"/>
4. In an average week, are you involved with collaborative teaching between an ELL teacher and classroom teacher?	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 3: ONE TEACH/ONE SUPPORT APPROACH: The “one teach/one support” approach is when one teacher primarily delivers instruction while the other teacher primarily supports/assists instruction, for example, one teacher leads a mini-lesson.

	Yes	No
5. Have you used the “one teach/one support” approach?	<input type="checkbox"/>	<input type="checkbox"/>

	0 to 9	10 to 19	21 to 29	30+
6. Please estimate the number of times you use this approach in an average week.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	0 - 25%	26 - 50%	51-75%	76-100%
7. Please estimate the average percentage of times you led instruction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 4: STATION TEACHING APPROACH: The station teaching approach is when each teacher provides content as students rotate – literacy centers led by a teacher, for example.

	Yes	No
8. Have you used the station teaching approach?	<input type="checkbox"/>	<input type="checkbox"/>

	0 to 9	10 to 20	21 to 29	30+
9. Please estimate the number of times you use this approach in an average week.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 5: PARALLEL TEACHING APPROACH: Parallel teaching is defined as each teacher teaching the same content at the same time to different students. Both teachers are teaching the same objective, however, the approach may vary slightly between the two teachers.

	Yes	No
10. Have you used the parallel teaching approach?	<input type="checkbox"/>	<input type="checkbox"/>

	0 to 9	10 to 20	21 to 29	30+
11. Please estimate the number of times you use this approach in an average week.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	0 – 25%	26 – 50%	51 – 75%	76– 100%
12. Approximately what percentage of the total class are you responsible for teaching while using this approach?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Approximately what percentage of your group are ELLs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	In general education classroom	ELL Room	Flexible shared space	Other (Specify)
14. Where do you usually instruct the students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 6: ALTERNATIVE TEACHING APPROACH: Alternative teaching is when one teacher teaches a small group: for enrichment, remediation, or a language-focused group, while the rest of the class works on another learning objective.

	Yes	No
15. Have you used the alternative teaching approach?	<input type="checkbox"/>	<input type="checkbox"/>

	0 to 9	10 to 20	21 to 29	30+
16. Please estimate the number of times you use this approach in an average week.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	In general education classroom	In an ELL Room	Flexible shared space	Other
17. Where do you usually instruct the students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Remediation group	Enrichment group	Language-focused group	Other
18. Which kinds of alternative teaching groups have you taught? (Check all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 7: JOINT COTEACHING APPROACH: Joint coteaching is defined as two teachers jointly leading the lesson, both leading the lesson together, at the same time.

	Yes	No
19. Have you used the joint coteaching approach?	<input type="checkbox"/>	<input type="checkbox"/>

	0 to 9	10 to 20	21 to 29	30+
20. Please estimate the number of times you use this approach in an average week.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

0 - 25%	26 - 50%	51-75%	76-100%
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Overall, I enjoy my coteaching situation this year.	<input type="checkbox"/>					
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24.	Strongly Disagree	Disagree	Slightly disagree	Partly agree	Agree	Strongly agree
Coteaching is a philosophically sound approach.	<input type="checkbox"/>					
Coteaching is nearly impossible to do in my current situation.	<input type="checkbox"/>					
Coteaching results in enhanced human rights for ELLs (i.e., increased classroom community, and access to native-speaking peers).	<input type="checkbox"/>					
Coteaching helps teachers integrate language acquisition with content.	<input type="checkbox"/>					

SECTION 9: PERCEPTIONS OF PULL-OUT: Because coteaching is usually seen as an alternate to pull-out, I would like to know your views on pull-out. Pull-out is defined as an ELL teacher teaching independently from the classroom teacher, and lessons are planned separately.

25.	Strongly Disagree	Disagree	Slightly disagree	Partly agree	Agree	Strongly agree
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SECTION 10: COLLABORATIVE PRACTICES: I acknowledge that you may have had a range of experiences, especially if you have many teaching partners. Please try to answer the following questions your teaching partners in general. There will be space at the end to add additional thoughts.

26.	Always	Usually	Sometimes	Rarely	Never
Does your busy schedule ever keep you from equitably sharing classroom duties with your coteaching partners (i.e. assessment, copies, etc)?	<input type="checkbox"/>				
Do your coteaching partners usually share classroom duties with you in an equitable manner? (I.e. assessment, making copies, etc.)	<input type="checkbox"/>				
I refer to ELLs as “our students” in conversation with my coteaching partners.	<input type="checkbox"/>				
I usually refer to non-ELLs as “our students” in conversations with my coteaching partners.	<input type="checkbox"/>				

27.	Strongly Disagree	Disagree	Slightly disagree	Partly agree	Agree	Strongly agree
Most of my coteaching partners actively treat me as an equal in the classroom and during planning time.	<input type="checkbox"/>					
I usually share and maintain specific areas of responsibility with my coteaching partners.	<input type="checkbox"/>					
I usually share instructional duties with my coteaching partners (i.e. teaching mini-lessons).	<input type="checkbox"/>					
If a student has needs that cannot be addressed in the classroom, we are allowed to find another solution, including teaching the student outside the classroom setting.	<input type="checkbox"/>					
My partners and I work well together.	<input type="checkbox"/>					
In general, my partner(s) and I have attended the same/similar trainings (Reader's Workshop, etc.)	<input type="checkbox"/>					

	Improved a great deal	Improved	Stayed the same	Weakened Slightly	Weakened	Weakened a great deal
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28. My coteaching relationships, over time, have	<input type="checkbox"/>					
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	Daily	Weekly	Monthly	Via phone & e-mail only	Informally, during school day only	Never/ almost never
29.						
In general, my partners and I communicate for planning:	<input type="checkbox"/>	<input type="checkbox"/>				
In general, we spend time together/ communicate socially :	<input type="checkbox"/>	<input type="checkbox"/>				
We usually meet to reflect on our coteaching relationship:	<input type="checkbox"/>	<input type="checkbox"/>				

	Separate supplies & ask before using	Separate supplies. Share, without asking.	Supplies mostly shared.
30. How do you share/maintain teaching supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 11: SCHOOL-BASED SUPPORT FOR COTEACHING: Please answer the following questions based on your overall impressions of the support you receive for coteaching.

	Daily	Weekly	Monthly	Occasionally if I advocate for it	Rarely	Never
31.						

How often are you provided with paid planning time with each coteaching partner, during the school day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. (continued)	Daily	Weekly	Monthly	Occasionally if I advocate for it	Rarely	Never
How often are you provided with planning time with each partner, during the school day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How often are you provided with paid planning time with each coteaching partner, outside the school day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

32.	Two or more times per year	Once a year	Rarely	Never
How often are you provided with substitutes for full-day planning time with all coteaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

partners?				
How often are you provided with substitutes for partial-day planning time with all coteaching partners?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	4 + times a year	1 – 3 times a year	Rarely	Rarely, but I have to advocate to avoid it	Never
33.					
I have disrupted my instructional schedule in order to substitute teach for a colleague (i.e. not including a prep period).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How often is your substitute reassigned to another classroom or position?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Often	Several times	Rarely	Never
34.				
I have been paid for summer time for planning with all my coteaching partners:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My principal talked about collaboration with staff:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have received tactical support for collaboration from a principal (i.e. solving conflicts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have received tactical support from district personnel (i.e. ELL TOSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly disagree	Disagree	Slightly Disagree	Partly agree	Agree	Strongly agree
35.						

I have had opportunities to go to coteaching training during the school day	<input type="checkbox"/>					
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36.	Very important	Important	Slightly important	Not very important	Unimportant
How important is it that administrators understand coteaching?	<input type="checkbox"/>				
How important is it that teachers and administrators take coteaching into consideration as they divide students into homeroom classes (i.e. clustering)?	<input type="checkbox"/>				
How important is it for the persons responsible for a school's schedule to include coteaching concerns early on?	<input type="checkbox"/>				
How important is it for ELL teachers to be able to teach children in a space other than the general education classroom, when necessary?	<input type="checkbox"/>				
How important is it for teaching supplies to be shared between co-teachers?	<input type="checkbox"/>				
How important is it to have a separate flexible space available for use during co-taught lessons (i.e. to reduce noise or distraction in	<input type="checkbox"/>				

Graduate coursework in collaborative teaching has been	<input type="checkbox"/>					
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SECTION 13: TEACHER BACKGROUND AND EXPERIENCE: Please answer the following questions which will assist us in statistical analysis.

39. How many years have you taught (including this year)?

This is my first year	<input type="checkbox"/>
1 year	<input type="checkbox"/>
2 years	<input type="checkbox"/>
3 years	<input type="checkbox"/>
4-6 years	<input type="checkbox"/>
7-9 years	<input type="checkbox"/>
10 plus years	<input type="checkbox"/>

40. Approximately how long ago did you receive your first teaching credentials (license), in years? (Do include teaching credentials received outside the U.S.).

1 year ago	<input type="checkbox"/>
2 years ago	<input type="checkbox"/>
3 years ago	<input type="checkbox"/>
4-6 years ago	<input type="checkbox"/>
7-9 years ago	<input type="checkbox"/>
10 plus years ago	<input type="checkbox"/>
Other (Please specify)	<input type="checkbox"/>

41. Which teaching credentials do you currently hold? (Please check all that apply)

- Classroom (K-6, K-8, 1-6, OR 1-8)
- ELL K-12
- Kindergarten/Early Childhood
- Special education
- Secondary subject area (social studies, etc.)
- Other K-12 license (World Languages, PE, other)

	Classroom Teacher	ELL Teacher	Other
42. Which teaching assignment do you have this year:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No
43. Besides your current teaching assignment, have you taught in another license area?	<input type="checkbox"/>	<input type="checkbox"/>

44. In which other areas have you taught? (Please check all that apply)

- ELL Teacher
- Classroom teacher (primary)
- Secondary teacher
- Special education
- Reading specialist
- Other _____

45. Please check the highest level of education you have achieved.

- Bachelors
- Bachelors, plus some graduate work
- Masters
- Masters, plus some doctoral work
- Professional degree (JD, MD, etc.)
- Doctorate (PhD,EdD, etc.)

46. What training have you had in coteaching (collaboration)? (Please check all that apply)

- No training
- College classes
- District's 3-day ELL Collaboration Training
- Other in-service workshops
- Conference sessions
- Collaboration coaching (with someone such as a literacy coach or ELL TOSA)
- Other, please specify_____

47. How long ago did you first start ELL/general education coteaching?

This is my first year	<input type="checkbox"/>
1 year	<input type="checkbox"/>
2 years	<input type="checkbox"/>
3 years	<input type="checkbox"/>
4-6 years	<input type="checkbox"/>
7-9 years	<input type="checkbox"/>
10 plus years	<input type="checkbox"/>

48. Have you co-taught before you began ELL coteaching (i.e. with a special educator)?

- Yes No

	Yes	No
49. Is teaching your first career?	<input type="checkbox"/>	<input type="checkbox"/>

50. Have you taught in a school with ELL pull-out?	<input type="checkbox"/>	<input type="checkbox"/>
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51. If yes, for how many years did you teach in with an ELL pull-out program?

This is my first year	<input type="checkbox"/>
1 year	<input type="checkbox"/>
2 years	<input type="checkbox"/>
3 years	<input type="checkbox"/>
4-6 years	<input type="checkbox"/>
7-9 years	<input type="checkbox"/>
10 plus years	<input type="checkbox"/>

	K	1st	2nd	3rd	4th	5th	6th
52. Please check the grade level of the collaborative class(es) you teach (please check all that apply).	<input type="checkbox"/>						

53.	0 to 1	2 to 3	4 to 5	6 to 7
How many hours a day do you usually co-teach in an average day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How many content areas do you usually co-teach in a average day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How many subjects/content areas do you co-teach in an average week?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

54. Which content area(s) of the classes you co-teach? (Check all that apply)

- Reader's Workshop (Reading)
- Writer's Workshop (Language Arts)
- Social Studies
- Science
- Mathematics
- Morning Meeting
- Other _____ (please specify)

	1	2	3	4	5	6	7 or more
55. How many coteaching partners do you directly team with? (Please include all teachers including special education)?	<input type="checkbox"/>						
56. How many ELL/general education coteaching partners do you team with?	<input type="checkbox"/>						

	Yes	No
57. Did you volunteer to co-teach?	<input type="checkbox"/>	<input type="checkbox"/>

	I chose	We chose each other	I was encouraged	I was informed	It was the only choice	I was pressured	I don't know
58. In general, how were your coteaching partners assigned	<input type="checkbox"/>						

59. Is there anything else you would like to add about your background or preparation for coteaching?

SECTION 14: DEMOGRAPHIC INFORMATION: There are only 7 questions remaining! To ensure my sample is representative of the district's teaching staff, please complete the following information:

	21-30	31-40	41-50	51-60	60+
60. Please indicate your age	<input type="checkbox"/>				

	Female	Male
61. Please indicate your gender	<input type="checkbox"/>	<input type="checkbox"/>

62. About what percentage of the students at your school are ELLs?

- 0 – 25%
 26 – 50%
 51 – 75%
 75 – 100%

63. About how many students attend your school?

- 0-300
 301 – 400
 401 – 500
 501 – 600
 601+

64. Does your school have a language academy?

- Yes No

65. Is there anything else you would like to add related to coteaching? This is your last chance to add your comments.

66. I wish to submit my responses and complete the survey.

FINAL SECTION: Thank you for your time. Please click 'done' below to display my contact information.

The following is a list of instrument items that were used to create the scales, as described in Chapter Four. The item numbers below are coded by item number and then an underscore to indicate the part multi-part items. For example, item number 23 has nine parts that were included. They were marked Q23_1 through Q23_9. Items marked “REV” are reverse items. These are items which were worded negatively, and have to be scored in reverse.

Coteaching perceptions scale:

Q23_1, Q23_2, Q23_3, Q23_4REV, Q23_5, Q23_6, Q23_7, Q23_8, Q23_9,
Q24_1, Q24_2REV, Q24_3, Q24_4

Pull-out perceptions scale:

Q25_1, Q25_2, Q25_3REV, Q25_4, Q25_5, Q25_6, Q25_7REV, Q25_8REV,
Q25_9REV, Q25_10

School support scale:

Q31_1, Q31_2, Q32_1, Q32_2, Q33_1REV, Q33_2REV, Q34_1, Q34_2, Q34_3,
Q34_4, Q35

Professional development scale:

Q38_2REV, Q38_3REV, Q38_4REV, Q38_5REV

Number of classes taught scale:

Q53_1,Q53_2,Q53_3

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