I, Adam Cooper, hereby submit this original work as part of the requirements for the degree of Doctor of Education in Literacy and Second Language Studies.

It is entitled:
Co-Teaching Science Courses for English Language Learners

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Co-Teaching Science for English Language Learners

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ABSTRACT

A history of co-teaching research in English as a Second Language and Special Education has identified prerequisite conditions necessary for successful co-teaching, such as administrative supports and parity, however the field has failed to move much beyond this initial level of support. With the current demand to use evidence-based practices, practitioners utilizing a co-teaching methodology need evidence supported by student outcome data and measurable accountability. To begin this study, prerequisite conditions were used to identify three co-teaching dyads in one urban fringe middle school, each consisting of one science teacher and one ESL educator at the sixth, seventh, and eighth grade level. Each dyad possessed a unique set of prerequisite conditions. They participated in a six-month Participatory Action Research (PAR) project focused on improving implementation of co-teaching models, as well as developing outcomes for instructional practice. Success was measured by tracking efforts to reach self-identified goals. Participants’ contributions were recorded with digital audio and written notes by the researcher, who served as a professional development facilitator. Coding of classroom observations and co-planning meetings revealed the potential for intensive professional development with embedded support, indicators of necessary prerequisite conditions, as well as attainable goals for teachers’ instructional design and student performance.

Keywords: co-teaching, content-based language learning, Participatory Action Research, sheltered instruction, Systemic Functional Linguistics (SFL), ESL program design
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Co-Teaching Science Courses for English Language Learners

CHAPTER 1

Introduction

Background

The broad array of contextual settings for K12 English as a Second Language education in the United States demands dynamic roles for Teachers of English to Speakers of Other Languages (TESOL). Different geographic regions of the country experience varying degrees of English Language Learner (ELL) populations (U.S. Department of Education, 2015) that require unique expectations of educators, depending on changing political demands and resources available to them (Collier & Thomas, 2004; Harper & de Jong, 2009). Under ideal circumstances, ELLs are afforded bilingual enrichment education where they are provided opportunities to develop their literacy skills in both their native and second languages (L2), so that they can ultimately succeed in cognitively demanding academic settings. In a progression from this ideal form toward the most ineffective, short-term program where students are provided with intensive English instruction at the expense of grade level content courses, programs can opt for transitional bilingual education programs, content-based ESL instruction, or ESL pullout instruction.

Despite evidence supporting a preference for bilingual programs, U.S. schools typically choose to implement Content Based Language Learning (CBLL) programs, citing concerns about financial and human resources required of bilingual education. Schools interested in
funding and supporting this next-best option seek to employ highly qualified TESOL professionals who are either facilitating an English Language Development program (Creese, 2005; Harper, & de Jong, 2009; Pawan, 2008) or co-teaching language and literacy for ELLs alongside highly qualified, grade-appropriate, content teachers (Echevarria, Vogt, & Short, 2012; Genesee, Lindholm-Leary, Saunders, & Christian, 2006; Genesee, Lindholm-Leary, Saunders, & Christian, 2005). Still, programs offering such robust instruction are not necessarily widespread. What occurs in many instances are under-resourced attempts to teach English alongside content material.

Many schools cite their comparatively small numbers of ELLs as a reason for not funding more robust levels of English Language Development Programs (Rolstad, Mahoney, & Glass, 2005; Baker & De Kanter, 1981; Collier & Thomas, 2007; Slavin & Cheung, 2005; U.S. Department of Education, 2015; Willig, 1985). Instead, these districts rely on existing resources, choosing to fund professional development that trains teachers in the use of more inclusive and collaborative approaches often suggested by sheltered instruction programs. While these investments may lead to more effective practices in a general education classroom, it does not adequately provide them with the skills to address the sociocultural, cognitive, academic, and linguistic needs of their ELLs, who struggle each day to learn an additional language while also learning cognitively demanding academic language (Cummins, 1980, 1984; Collier & Thomas, 2004; 2007).

Given a fully supportive structure for co-teaching, which includes embedded professional development and administrative priority over competing educational initiatives, content and ESOL teachers will be able to articulate instructional goals that will advance the quality of instruction for English Language Learners enrolled in content based language learning
classrooms. Though research and materials exist for teachers working in CBLL classrooms, they do not adequately provide enough support and guidance for co-taught sheltered instruction, which is so pervasive in US schools today. When co-teachers are provided with administrative support for their endeavors, they will be given more opportunity to define their roles as teachers and as colleagues. Current descriptions of these roles are too broadly defined in professional literature on co-teaching in Special Education and in Teaching English to Speakers of Other Languages. By eliminating the typical constraints of collaborative efforts, teachers will be able to transfer their goals and clearly defined roles into meaningful instruction with greater potential for positively affecting student growth in both content knowledge and language development.

The most persistent and productive co-teaching efforts result from a strong foundation of support from administrators and colleagues (Davison, 2006). According to Davison (2006), primary concern for teachers embarking on new co-teaching relationships range from the practical need for a common schedule with their partner to a desire for encouragement and support from their administrator. These support features were necessary for teams to achieve more advanced levels of collaboration. In these advanced levels, teachers assume more shared responsibility for instructional design and delivery.

Once these higher levels of collaboration emerge as a result of administrative support and embedded professional development activities, CBLL teachers can rely on more than one body of research and practice to guide that instructional design. SIOP currently drives teacher practice in US settings, because it’s breadth of readily available materials are more practical for under-resourced teachers. With the administrative and professional development support, teachers will be able to move beyond prevalent efforts to implement SIOP strategies and begin to incorporate more rigorous analysis of academic language with their students. Examples of potential for this

Evidence, therefore, currently supports more efforts to develop co-teaching partnerships for CBLL classrooms in the United States. Increased efforts to support these endeavors with embedded professional development that is prioritized by administrators will allow teachers to identify more meaningful goals for their instruction, for their role as a colleague and a teacher to ELLs, and it will transfer to more rigorous study of academic language on the part of students.

Increased efforts to support these endeavors with embedded professional development that is prioritized by administrators will allow teachers to identify meaningful goals for their instruction, for their role as a colleague and a teacher to ELLs, and it will transfer to more rigorous study of academic language on the part of students. Given a fully supportive structure for co-teaching, which includes embedded professional development and administrative priority over competing educational initiatives, content and ESOL teachers are able to articulate instructional goals that will advance the quality of instruction for English Language Learners enrolled in content based language learning classrooms. There are constraints, related to the prerequisite conditions of administrative support and parity. These constraints often create conditions for the teacher that make it difficult for them to carefully define their roles as teachers and as colleagues. Current descriptions of these roles are too broadly defined in professional literature on co-teaching in Special Education and in Teaching English to Speakers of Other Languages. Furthermore, a primary concern for teachers embarking on new co-teaching relationships range from the practical need for a common schedule with their partner to a desire for encouragement and support from their administrator (Davison, 2006). Professional literature on co-teaching overwhelmingly focuses on implementation of prescribed co-teaching models.
There are other goals to co-teaching than implementing a model with fidelity. For instance, Davison (2006) noted that as levels of cooperation increase in a partnership, there is more potential for interchangeable roles, as well as “increased understanding…and achievement across the curriculum” (Davison, 2006). Opponents to an expansion of CBLL beyond SIOP strategies and training note that research and materials already exist for teachers working in sheltered and inclusion programs. A vast majority of these existing materials are created to assist ELLs in learning strategies, rather than in direct analysis of language in academic texts. These materials, therefore, do not adequately provide enough support and guidance for co-taught sheltered instruction, which is an increasingly common approach in K12 schools. The most persistent and productive co-teaching efforts result from a strong foundation of support from administrators and colleagues (Davison, 2006). With the administrative and professional development support, teachers will be able to move beyond prevalent efforts to implement SIOP strategies and begin to incorporate more rigorous analysis of academic language with their students. Once these higher levels of collaboration emerge as a result of administrative support and embedded professional development activities, CBLL teachers can rely on more than one body of research and practice to guide that instructional design. These support features are necessary for teams to achieve more advanced levels of collaboration. In these advanced levels, teachers assume more shared responsibility for instructional design and delivery. By eliminating the typical constraints of collaborative efforts, teachers are able to transfer their goals and clearly defined roles into meaningful instruction with greater potential for positively affecting student growth in both content knowledge and language development.

**Legal mandates in TESOL.** Co-teaching program models in the United States are the result of districts’ moves to support content teachers in the development of instructional
strategies for English Language Learners. It is driven in part by state and federal directives to quickly transition ELLs into content courses taught solely in their second language (L2). The most notable directive was Title III of No Child Left Behind (2002), which was reiterated by its replacement in the Every Student Succeeds Act of 2015. These federal laws gave explicit institutional attention to services for ELLs. For the first time, federal law required schools to provide ELLs full access to an academic curricula that is almost strictly monolingual. It was a move that was compounded by an existing body of research in CBLL that provides adequate evidence (Aguirre-Muñoz & Boscardin, 2008; Collier & Thomas, 2004; Gibbons, 2003; Schleppegrell, 2001; Schleppegrell, Achugar & Oteíza, 2004;) to support two decades of theoretical foundations (Brinton, Snow, & Wesche, 2003; Chamot & O'malley, 1987; Crandall, 1992; Mohan, 1986; Schleppegrell, 1998; Snow, Met & Genesee, 1989; Stoller, 2004;).

Though NCLB (2002) and ESSA (2015) marked a turning point toward increased federal emphasis on the education of bilingual students, it was not the first instance of legal mandates for fuller inclusion of ELLs. A long series of legal decisions by the Supreme Court, dating since at least 1923, have guaranteed the educational rights of bilingual and immigrant students in the United States. Arguably, the most influential of these decisions for TESOL came in Lau v. Nichols (1974), which found that school districts receiving federal assistance to provide public education must not discriminate against individuals based on “race…or national origin”. The court’s ruling was groundbreaking in its specific remarks stating that by failing to provide access to the material presented to other students in English, the San Francisco school system violated the Civil Rights Act of 1964. The Civil Rights Act, then, guarantees immigrant students “equal access” to the content that is presented in US schools. Since then, schools have worked to define “equal access” and to determine how to legally provide it.
Invariably, schools saw the Lau decision as a mandate to devote more resources to educating ELLs enrolled in their district. Some sought to limit the impact of this legal mandate, by limiting their responsibilities and excluding students with illegal immigration status. Plyler v. Doe (1982), however, expanded the national requirement for equal access to include illegal immigrants. Citing the 14th Amendment, the court required states to disseminate federal funds for public education despite the legal status of immigrants living within its jurisdiction.

Legal mandates now ensure that public education remains inclusive and diverse. Decisions about how to provide the necessary structures for providing equal access to diverse demographics of students was left up to individual education agencies at the local level. Indeed, there are numerous studies evaluating the effectiveness of different program designs for ELLs in the United States, with a significant body of evidence favoring bilingual approaches to sheltered ones (Rolstad et al., 2005; Baker & De Kanter, 1981; Collier & Thomas, 2007; Slavin & Cheung, 2005; Willig, 1985). This is not to imply, however, that sheltered instruction does not create results.

**Program designs.** Public education for ELLs takes many forms in the United States, though each is obliged to indicate student growth in content knowledge, as well as cognitive academic language proficiency (Chamot & O'malley, 1987; Cummins, 1980). The emphasis in second language learning shifted toward content-based language learning in U.S. public schools beginning in the 1980s. It was first proposed and researched in international postsecondary settings (Mohan, 1985; Mohan & Beckett, 2001), then expanded more broadly in K12 settings (Aguirre-Muñoz & Boscardin, 2008; Collier & Thomas, 2004; Duff, 2001; Gibbons, 2003; Hart & Lee, 2003; Janzen, 2008; Schleppegrell, 2001; Schleppegrell, Achugar & Oteiza, 2004; Short, 1994; Snow et al., 1989). It was institutionalized by public schools in the United States because
of the No Child Left Behind Act (2002). As a result of this decades-long progression in TESOL, experts have outlined both the definition of various K12 ESL program models as well as their effectiveness.

As CBLL gained prominence as a preferred approach to K12 ESL education in the US, L2 professionals have noted the broad range of program designs across various contexts throughout the country. Early attempts to identify and outline program designs in the United States are provided by McKeon (1987) and Rennie (1993), who describe pullout and resource center designs, as well as the more robust bilingual, structured immersion, sheltered instruction, and high intensity language teaching programs. Because of this range of programs, inconsistencies plague the value of education provided for ELLs. The fact that program designs exist within an inconsistent diaspora is a result of the equally broad range of challenges facing different regions of the country and the range of resources available to meet those challenges.

Rennie (1993) listed the following conditions as factors influencing the decisions school districts make when choosing various program designs: demographics of the school district as a whole, ELL student characteristics such as country of origin and socioeconomic status, and the resources available to those districts in terms of money and teacher quality. These early attempts to identify and define approaches to TESOL in the US coincided with Collier’s (1987; 1992) initial investigations of their value for learning ESL alongside cognitively challenging academic content. Subsequent work by Collier and Thomas (2004) outline the effectiveness of these programs, emphasizing the value of bilingual education while acknowledging the persistence of sheltered models.

Two-way bilingual education proves most beneficial for ELLs in the United States who are required to make significant gains in L2 proficiency while simultaneously meeting the same
content requirements expected of their native speaking peers. Still, there is a broad range of ESL program’ designs on a continuum that includes intensive ESL pullout, content-based ESL instruction, transitional bilingual education with an emphasis on sheltered instruction, and dual language immersion (Collier & Thomas, 2007). Since ESL pullout and content-based ESL instruction requires minimal initial investments from school districts and since recent trends in legal decrees, despite their altruistic motives, support such comparatively ineffective programs, there is a significant prevalence of these programs in the United States (U.S. Department of Education, 2015). So, a dilemma remains for ESL programs in the United States: how can school districts that remain insistent on sheltered instruction models begin to enhance those models so that they can be better equipped to bridge the gap in their effectiveness when compared to what decision makers in those districts deem to be a more impractical dual language approach?

**Sheltered instruction.** Sheltered instruction is a general approach to teaching content knowledge alongside an emerging language, wherein the target language serves as the sole medium of instruction. It remains the predominate approach to TESOL in the United States, because it does not require highly qualified bilingual teachers in each content area and across all grade levels. Instead, sheltered instruction typically requires more limited professional development training in research-based practices for teaching language minority students enrolled in a content classroom. Due to the commercial and practical success of the Sheltered Instruction Observation Protocol (SIOP) (Echevarria, Vogt & Short, 2012), a patented approach to TESOL that has produced numerous texts devoted to providing teachers with printable materials and easy-to-follow instructions (Vogt & Echevarria, 2008), ESL programs in the United States almost invariably embrace it as their program design of choice. Studies of different approaches to K12 ESL education (Collier, 1992; Collier, 1987; Collier & Thomas,
2007; Collier & Thomas, 2004; Thomas & Collier, 1997) that are focused exclusively on US schools conclude that two-way bilingual programs concerned with the maintenance of L1, as well as the development of L2, are preferable to sheltered instruction and immersion programs. A vast majority of public schools in the US are nonetheless choosing to allocate resources to the development of strategies for sheltered instruction. SIOP provides an avenue for schools to focus on ELLs’ rapid transition into general education classes where additional human resources are not required as long as existing teachers are willing to participate in a limited amount of professional development experiences.

SIOP evolved to prominence beginning in 1999 with the first edition of Making Content Comprehensible for English Language Learners: The SIOP Model (Echevarria, Vogt, & Short 1999), though its foundation was established by Short’s earlier research into the integration of language and content as a focus of learning in middle school history classes in California (Short, 1994). That initial examination of ELLs linguistic demands in middle school history courses provided SIOP authors with clues that led to recommendations for 30 components of a sheltered classroom (Echevarria, Vogt, & Short, 1999) and now extends to recommendations for systemic change, school improvement, and collaborative work among teachers and administrators (Echevarria, Short, & Vogt, 2007; Short, Vogt, & Echevarría, 2008).

Despite this commercial success, critical studies of SIOP are nonexistent. Notably, peer reviewed research into the implementation and results of SIOP are exclusively reported by studies that involve the creators of SIOP (Echevarria et al., 2012; Short, 2002; Short, Echevarría, & Richards-Tutor, 2011; Short, Fidelman, & Louguit, 2012). For schools to abandon the intensive approaches of bilingual education they ought to accept responsibility for vetting the alternative. This vetting process should include an increased number of critical studies into the
results of SIOP on language and content learning. It can also investigate the potential for using SIOP strategies to broaden perspectives of CBLL that have proven successful in other settings. Researchers and practitioners must work to build a stronger body of approaches to linguistic study in K12 classrooms beyond or in addition to SIOP.

A body of research attempting to link SIOP with databased literacy and linguistic practices is in its infancy. McIntyre, Kyle, Chen, Muñoz, & Beldon, (2010) specifically aim to assess the effectiveness of SIOP, because it is a “popular sheltered instruction model” that ought to “reflect on (its) coherence…with research-based literacy practices.” While McIntyre et al., (2010) found that many of the strategies emphasized in SIOP have research-based value, their study is one of only a few instances in which a critical analysis is applied to a model that is implemented on such a wide scale across the United States. They acknowledge SIOP’s adherence to the principles of sociocultural theory and its resemblance to foundational studies that illustrated practical application of these theories to the language and literacy development of multicultural youth (Heath, 1983). They report positive results for students enrolled in classes where teachers are successfully implementing the SIOP model with fidelity, but they are forced to acknowledge limitations that must be addressed by researchers and practitioners.

Though SIOP is widely initiated as a topic of professional development, the number of teachers who succeed in implementing it with fidelity on a long-term basis remains small (McIntyre et al, 2010). Furthermore, the availability of similar control and treatment groups is limited; McIntyre et al., (2010) noted that, pre-assessment scores were significantly lower in treatment groups than they were in control groups. Furthermore, students who were enrolled in classes that implemented SIOP with high fidelity may have shown more significant growth than students who were not, but they did not ultimately score higher on reading assessments with any
real statistical significance. Still, trend data from the study suggests that long-term placement in these classes would yield higher results on post-assessments.

More critical studies of SIOP must be conducted if it is to be the predominant approach for addressing the needs of ELLs in US schools, where most resources are used to fund professional development for content teachers rather than highering additional TESOL endorsed teachers. Other common allocations of TESOL resources are used to fund one to three years of intensive ESL instruction, and to a lesser extent still, they are used to fund co-teaching classrooms where ELLs are provided with literacy instruction in general education content courses. In each of these common situations, SIOP must be extended to include more robust forms of linguistic development.

**Systemic functional linguistics.** Investigations into the use of Systemic Functional Linguistics (SFL) in US schools are underrepresented in research literature and even more underrepresented as a practical approach when compared to two decades of widespread SIOP professional development. It is important to note that this underrepresentation is unique to US contexts, since the use of SFL in primary and tertiary settings is reflected extensively in published research from other countries. Gibbons (2003), for example, analyzed the changing register of nine and ten year old Australian ESL science students. This is not to imply, however, that the US does not yield evidence of SFL’s promise for the linguistic development of ELLs. Schleppegrell’s (2004, 2001) and Schleppegrell, Achugar, & Oteíza’s (2004) work in middle school social studies classrooms articulated specific examples of children who benefited from a critical linguistic analysis of text conducted through the lens of SFL. Schleppegrel (2013) and Schleppegrell & de Oliveira (2006) extended this work to include character analysis at the primary level, as well as secondary social studies classes, respectively. Slater and Mohan (2010)
provided a description of the potential for register analysis high school science classrooms in Canada.

To be sure, evidence of content teachers’ work with ELLs in the US does exist even outside of the SIOP paradigm. Janzen’s (2008) meta-analysis of research literature about content teachers who address the needs of ELLs provides a focused account of specific practices in content classrooms that might suggest several ways in which professional conversations about TESOL in K12 settings can expand beyond the formulaic approaches of SIOP. To begin this new direction, she examines discipline-specific needs, such as the literacy demands of math, science, and social studies respectively. In all disciplines, therefore, SFL provides a medium for linguistic support to struggling students, but it is difficult to understand to what extent it can produce results for ELLs in the US, where attention is almost exclusively focused on SIOP strategies.

Still, there is evidence that sheltered instruction can positively improve ELL’s comprehension of content material, particularly in settings where access to students’ native language and access to ESL teachers are severely limited. These settings are certainly not ideal ones, as proven by the body of research supporting bilingual education and the TESOL profession (Creese, 2010, 2002; Pawan, 2008). They are, simply put, the reality that must be faced in some settings. SFL is one avenue that shows promise for adequately supporting ELLs and educators here. It is an avenue, even in the US, that is supported with ample scholarly evidence (Slater & Mohan, 2010) to be further implemented along with SIOP strategies. As SIOP requires further critical analysis and more strategic focus on language and literacy development, SFL in co-teaching settings is likely to provide the guidance and structure currently being sought by language and content teachers in co-teaching settings. What remains relatively unexplored in both research and practice, however, are clearly articulated practices and
procedures for the development of robust language and literacy development practices in the middle ground, where bilingual programs are not available, but investments in sheltered programs and ESL co-teaching remain strong.

**ESL co-teaching.** For content teachers, the additional pedagogy required for teaching English Language Learners can be overwhelming (Creese, 2005; Pawan, 2008), but co-teaching proves to address the learning needs that might otherwise be ignored in a typical content classroom. In one of the few investigations into the level of expertise held by content teachers of ELLs, Pawan (2008) analyzed the knowledge of scaffolding strategies held by over 3,700 content area teachers who were enrolled in a 32-week professional development course at an American university. In regards to four categories of scaffolding for ELLs (linguistic, conceptual, social, and cultural), 408 references were made in online postings throughout the course. These references revealed that content teachers were least adept at providing cultural scaffolding, whereby teachers are able to invite the students’ cultural tools and traditions into the curriculum. By comparing the functional discourse of content teachers with that of ESL teachers across three schools in the United Kingdom, Creese (2005) found that the ESL professionals were able to help with such scaffolding. Intense collaborations between ESL and content teachers provides opportunity for co-teaching partners to determine the dynamic pedagogical needs that must be addressed in a content based classroom. Without these intense collaborations, in restricted SIOP settings that rely solely on content teachers who are trained in SIOP strategies, for example, the pedagogical needs of ELLs in content-based classrooms may be ignored.

Instances in the CBLL literature where ESL and content-based teachers articulated their respective pedagogical responsibilities are relatively few (Peercy, & Martin-Beltran, 2012; Creese, 2010). As a result, more instances of ESL co-teaching are needed to ensure that the
needs of ELLs are met. Co-teaching collaborations are well-represented in special education research (see Murawsky & Swanson, 2001; Scruggs, Mastropieri, & McDuffie, 2007), but they are less evolved in ESL, because the factors that influence the field are so dispersed. Co-teaching investigations occur periodically with English as a Foreign Language (EFL) programs (Davison, 2006), most often in tertiary settings (Stewart & Perry, 2005). They are, however, reported in secondary ESL education outside of the United States (Creese, 2005; Pawan, 2008), and, with less frequency, within US secondary schools, as well (Dove & Honigsfeld, 2010). In each of these instances, collaborations achieve varying degrees of success due to the contextual factors in which they occur (Pawan & Orloff, 2011; Russell, 2012).

In a questionnaire of 12 elementary school teachers and the five ESL teachers with whom they collaborated, Davison (2006) was able to identify five levels of collaboration in an ESL classroom (passive resistance, compliance, accommodation, convergence, creative co-instruction). Stewart & Perry (2005) describe a similar process toward full partnerships between team teachers. Though partnerships experienced varying levels of success, the most effective collaborations yield a heightened concern among teachers for achieving curricular objectives (Davison, 2006) and high ratings in student satisfaction surveys (Stewart & Perry, 2005). Dove & Honigsfeld (2010) notice among three case study vignettes, that cooperative teachers can only progress to the highest levels of collaboration when teachers are provided sustained professional development in supportive institutional contexts.

Prerequisite conditions. Training, support, and an ongoing engagement in professional learning can address other limitation to co-teaching models, too. Creese (2005) noticed that because of their lack of content knowledge, ESL teachers were neither treated with parity by colleagues nor students. “[T]he problem is that the discourses underpinned by ideologies at
institutional and societal level come to endorse certain pedagogies and relegate to the background others that need attention” (p. 612). She does not fully revoke the credibility of ESL coteaching, but instead recognizes its limitations as a point for inviting broader participation in the instructional practice. Pawan (2008) recommends action research as a collaborative and iterative approach to ESL pedagogy. Furthermore, he recognizes action research as a means for teachers to share their expertise and modify instruction as needed. This study seeks to capitalize on the potential of action research to address the gaps in CBLL as it exists within sheltered instruction models in the United States.

**Action research.** Scholarly calls to invite action research (AR) into the language classroom abound (Burns, 1999; Crookes, 2003; Crookes, 1993; Kumaravadivelu, 2001), resulting in successful formulations of instruction for foreign language study (Crookes & Chandler, 2001), English as a Foreign Language in postsecondary programs (Thorne & Qiang, 1996;), and English as a Second Language in secondary settings. Indeed, collaborative inquiry has long been a means for refining practice according to traditions in Japanese Lesson Study (Fernandez, Cannon, & Chokshi, 2003). Schleppegrell (2013) references design-based research in CBLL classrooms that use metalanguage and Systemic Functional Linguistics as a means for teaching content and language simultaneously. Her description of design-based research closely resemble the processes of Japanese Lesson Study and action research, with cycles of implementation, reflection, and planning for refined practices.

Momentum now supports an increased focus on collaborative inquiry with an intention to refine practice and address the pedagogical needs of ELLs content teachers. The dynamic ability for action research to affect positive changes in the classroom is evident in its parallel focus on increasing opportunities for disengaged students (Atweh, 2003; Bland & Atweh, 2007; Mitra,
2006; O’Brien & Moules, 2007), for student learning (Nunan, 2002), and for school reform (Fielding, 2001; Leitch, Gardner, Mitchell, Lundy, Odena, Galanouli et al., 2007). With the proliferation of AR among teachers, administrators, and students, there are still inadequate attempts to convene these efforts into parallel investigations that can inform and assist one another in their distinct objectives. Although this study focuses solely on an action research project conducted by a set of ESL Science co-teachers, it also suggests a framework for conducting action research at various levels, for students and for administrators, who wish to maximize the potential of literacy instruction in sheltered classrooms that incorporate the expertise of content teachers and ESL teachers, alike.

Statement of the Problem

As urban schools encounter a growing number of students from diverse cultural and linguistic backgrounds, they are under increasing pressure to meet needs that may not be addressed in a traditional classroom. In the two decades between 1988 and 2008, the enrollment of white students has decreased across all geographic regions of the United States, whereas minority student populations have increased dramatically (U.S. Department of Education, National Center for Education Statistics, 2010). Adding to this pressure is the locus of the increase in minority student enrollment. While the concern for minority students has historically focused on closing the achievement gap associated with African American youth, a new demographic proves to be of at least equal concern. The number of students who speak a language other than English at the home doubled in this same 20-year period (U.S. Department of Education, National Center for Education Statistics, 2010). Decisions about how to educate this population of students varies across the country.
Since program design is so varied across geographic regions and between school districts (Genesee et al., 2006; Genesee et al., 2005), the roles of TESOL professionals in the content based language classroom are inconsistent (Collier & Thomas, 2004; Harper & de Jong, 2009). In some instances, they serve as classroom teachers who provide intensive L2 instruction only for newcomers who are not included in general education courses with their native speaking peers. In other cases, the ESL teacher may teach English Language Development for a small part of the day, affording ELLs the opportunity to attend content classes with the general population. TESOL professionals may serve solely as consultant or coach, providing limited support to content teachers and administrators who have limited knowledge or experience regarding the needs of this population of students.

In every one of these most common approaches to teaching ESL in the United States, there is an essentially exclusive use of the L2 in the classroom. These are the predominant approaches despite Collier & Thomas’s (2004, 2007) claims that the most effective and even the most resource-conscious approaches are long-term maintenance bilingual ones. Still, most schools report that bilingual teachers are scarce, and so the only remaining option is to optimize resources with monolingual teachers. In other words, when transitional bilingual education is not an option, language must remain a focus in all content areas. Teachers, therefore, need more guidance in literacy and linguistic studies in education and in their content area, in particular. In order to ensure that students are served best, research into the roles and services provided by ESL teachers in various school districts must continue to expand. Though a strong foundation of research exists describing the structural components required for a school culture that responds to their expertise and to the needs of ELLs, more evidence is needed for both content and ESL teachers to fully understand what the processes and outcomes ought to be for these students in
their classrooms. In sum, research must contribute to a more comprehensive, but specific, definition of what ought to be expected of co-teachers in content-based language classroom.

Three decades of CBLL research and practice in the US, combined with the commercial success of SIOP and administrative decisions about program design that are based on perceptions of limited need and resources in the classroom, have led to widespread implementation of sheltered instruction without focused attention on the linguistic needs of the L2 students these programs are designed to serve. Concern for implementing effective instruction remains fixed on the presence of instructional strategies. Similarly, research in ESL co-teaching is underdeveloped because of its incessant focus on the necessary components for successful co-teaching practice. There is ample evidence to support the need for administrative support, adequate training, and parity among co-teaching partners, but there is far less evidence of what ESL co-teachers should produce in their classrooms and what procedures can create meaningful academic English language development alongside significant grade-level content learning.

Questions about ESL co-teaching no longer revolve around prerequisite conditions, but are instead emerging in regards to its potential for addressing the current inadequacies of program design in the United States. Now that research has created the settings necessary for ESL co-teaching to thrive, it must define specific ways to teach ELLs how to meet the exponential growth targets required exclusively of their demographic. Since most content teachers perceive their skillsets ill equipped to meet the needs of their bilingual students, there is a demand for supporting their content and pedagogical knowledge with the content and pedagogical knowledge of TESOL professionals. Outlines of English language development facilitated by a TESOL professional at the same time that content curriculum is implemented
under the direction of highly qualified content teachers must now be an intended result of ESL co-teaching research.

Co-teaching research must now attend to providing practical direction and building a framework of expectations for programs that enhance and even move beyond sheltered instruction. Invariably, current programs at least consist of content teachers who possess knowledge of or have access to foundational tools for working with ELLs. With institutional emphasis on performance-based teaching and learning standards alongside standardized tests, teachers fully understand the skills required to succeed in their content area at a given grade level. There is little understanding, however, of content teachers’ role in supporting literacy development. In specific regards to TESOL, most districts now provide SIOP training to content teachers who have ELLs in their classrooms. These foundational tools are a necessary first step, but they are inadequate without ongoing professional development support from a highly qualified TESOL professional.

Content teachers and their ESL counterparts engaged in a co-teaching relationship, therefore, are tasked with the development of procedures for ensuring the academic success of English Language Learners; research into their practices and procedures must also articulate what must be produced as a result of participation in a co-taught classroom. It is no longer necessary for this research to articulate the foundational components necessary for a successful ESL program; instead, research must begin to assume that those components are present so that it can outline for teachers the necessary procedures for eliciting expected outcomes from struggling ELLs.

Few studies have been able to step beyond the identification of required prerequisite conditions toward the identification of optimal outcomes for instructional practice, including
accommodation approaches, materials, and student performance measures. The elicitation of expected outcome has only recently emerged from research into the collaborative practices of ESL and content teachers (Lee, 2005). This research study is based within an ESL program that historically assumes foundational components and consequently contributes to the development of procedures and outcomes for ESL teachers and students.

**Purpose of the Study**

The purpose of this study is to examine the instructional goals, learning procedures, and outcomes for ELLs in co-taught content-based language classrooms. The classrooms included in the three case-studies described here were chosen because they existed within a structure that already supported an array of recommended prerequisite conditions. This supportive structure allowed the primary focus of the study to shift from the quality of the co-teaching relationship and the conditions that supports its success toward more specific outcomes for ELLs’ linguistic development and content knowledge. This was an exploratory study aimed at identifying areas for potential growth in future endeavors that might support literacy and linguistic development in co-taught middle school science courses, perhaps through the medium of SFL or other promising approaches that have been largely ignored in the United States. The co-teaching partners described here were already working collaboratively to meet the needs of secondary English Language Learners amid a general structure of recommended prerequisite conditions. Therefore, the focus of this research in ESL co-teaching was focused on the procedures and outcomes that ultimately must emerge from learning within these contexts.

When school districts allocate resources for English Language Learners to be placed in co-taught content based language classrooms, including adequate teacher training and administrative support for the co-teaching endeavor, then the educators who are charged with
operating these settings need explicitly outlined expectations for both teacher and student
performance. These classroom participants require a field of explicitly defined goals and
expectations that will facilitate the use of evidence-based learning strategies and that will
produce indications of student growth. Teachers would benefit from a set of procedures that
yield observable evidence of their level of success in co-teaching content and language. They
need clearly defined roles, descriptions of expected classroom practices, and a structure for
analyzing the classroom performance so that future roles and practices can be planned for the
explicit benefit of their students’ English Language Development, as well as their content
knowledge.

This research study, therefore attempted to inform current practice by suggesting a
direction for attaining a more clearly defined outline of procedures, practices, and outcomes to
expect in a successful co-taught K12 CBLL classroom. Certainly, contemporary examples of
these procedures, practices, and outcomes exist, though they have not necessarily been
combined from various fields of SLA studies to expressly inform ESOL co-teaching. For
example, Task Based Language Learning already describes a host of classroom activities
capable of producing the desired effect on student performance (Ellis, 2003; Long, 1985;
Skehan, 1996). More practically speaking, learning standards have long been adopted by states,
monitored by local districts, and used by teachers to guide their classroom instruction.
Additionally, there are countless learning strategies packaged and sold to teachers who are
looking for ways to elicit desired responses from students (Herrell & Jordan, 2015; Vogt &
Echevarria, 2008).

Tasks, standards, and strategies certainly do their part to inform a list of indicators for
successful co-taught CBLL classrooms, but they have not yet been analyzed nor combined to
outline clearly defined goals and procedures for teachers in these settings. Furthermore, there is still a need to consult other bodies of research and practice in SLA to make such descriptions complete enough for teachers to consult in their daily practice. This study, therefore, followed co-teaching partners who were presumably operating within a field of fully supported co-taught CBLL classrooms in K12 settings, so that more clearly defined programs can be designed for these teachers in the future. In order to determine the most relevant body of existing research and directions for future research in co-teaching CBLL in US K12 classrooms, this study investigates teachers’ goals for such programs, the roles they assume as a content teacher or a language teacher, respectively, their instructional practice, their reflections on classroom performance, and the changes they desire for the students, for themselves, and for their classroom in general.

**Research Questions** This research study addresses the need for a clearly defined set of procedures, practices, and outcomes to expect in co-taught K12 CBLL classrooms in the United States. An investigation of three co-taught ESOL Science classrooms at the sixth, seventh, and eighth grade level focused on the following research questions:

1. When teachers are engaged in an intensive professional development experience that is guided by action research activities and accompanied by embedded support, what do they choose as a focus for goals and objectives in their instructional practice?

2. What respective roles do ESL and content teachers assume in a co-taught setting that is supported by an intensive professional development experience that is guided by action research activities and accompanied by embedded support?

3. Do teachers’ respective instructional practices align with the goals identified in co-planning and reflection meetings between the co-teaching partners?
CHAPTER 2

Review of the Literature

Introduction

This research is rooted in contributions to Content Based Language Learning (CBLL), an outgrowth of nearly fifty years of developments in sociocultural language learning. Following a timeless tradition in structural linguistics, where languages were learned through prescribed descriptions of the grammar, a shift toward more constructivist approaches began to emerge in the latter half of the 21st century. More specifically, the social turn of the 1970s brought more emphasis on the social context of second language acquisition. Theorists such as Lev Vygotsky and Mikhail Bakhtin were studied for the first time in generations as inspirational work from Paolo Freire and Miles Horton gained the attention of language teachers who sought to use language as a tool for agency in social contexts. The potential for using language for social change caught the attention of TESOL professionals in North America, when Bonnie Norton Peirce (1995) recognized that an individual’s own investment in the target language heavily influenced the ways in which learners used the language to assume agency in social situations.

Other theorists in the field who described the value of apprenticeship models of bilingual education echoed the value of identity and investment in the processes of SLA at this time. Gutiérrez, Baquedano-López, & Tejeda (1999) described a third space that was too often ignored in a language classroom, where students and teachers bring their own schema into second
language learning environments.

**Theoretical and Conceptual Framework**

**Sociocultural theory.** Collaborative teaching in ESL satisfies tenets of Sociocultural Theory (SCT), because it fosters a dialogic relationship (Bachtin, 2011) between teachers from two distinct professional backgrounds in the same way that it apprentices ELLs into a target linguistic culture. According to Bakhtin (1981), language is dialogic, but so is the situated learning environment. The environment and the language is mediated (Vygotsky, 1978) by the participants in that environment. Lave & Wenger (1991) described situated learning that requires apprenticeship in a cultural practice.

Vygotsky’s (1978) conception of the Zone of Proximal Development (ZPD) also promotes participation in a cultural community, initiated and supported at first by the design of a more capable peer. In the context of a language or content classroom, those capable peers are the participants who have the fullest access to cultural tools in the community, the teachers, as well as classmates, who have a more limited access to the cultural tools than the teacher. Situated learning (Lave & Wenger, 1991) in its most supportive form is autonomous (Van Lier, 2007) with a dynamic array of scaffolds (Vygotsky, 1978) designed through dialogic activity (Bachtin, 2011).

Johnson (2006) specifically addresses the implications SCT has for ESL teachers in a co-taught content-based language classroom. She identifies a gap between the SCT paradigm encouraged by the L2 professional literature and the public expectations of an L2 teacher. Based on ideas about situated learning and activity theory, SCT encourages L2 teachers to base language learning on authentic social interactions that are necessary for the completion of some task.
The goal for language and content teachers is to determine the hierarchical levels of language learning that must occur for language learners who are developing within the new academic culture of a content classroom. The first decision to be made in the determination of these hierarchical levels is whether the language or the culture must be learned first. Do students need to learn the language, from a structural standpoint, before they can interpret the semiotic tools of the content specific academic culture or is it first necessary to learn the situated environment?

Language exists at a discourse level in the broadest sense and at the morphological level in the narrowest sense. Between those levels, there are of course seemingly endless possibilities for language learning as morphology, lexicology, syntax, discourse and even the pragmatics combine to offer the learner a set of tools that can offer full participation in that situated learning environment. To decide which of these tools must be learned and acquired first is impossible, since their successful implementation depends largely on the changing cultural factors in that space; the learner must be able to interact and change participation in that space depending on other participants. The use of language and the participation in the environment is both literally and figuratively a result of a dialogic relationship between the learner and other participants. It is a negotiated third space (Gutiérrez et al., 1999) that is complicated by the dual interests of the target culture’s experts, both language and content teacher, as well as by the interests and background experiences of the L2 learner entering that space. There is, then, a fourth, fifth, and sixth space created by a language teacher whose purpose is to mediate the student and teachers’ spheres. Most significantly, the question of which tool, whether it is the structural components of the target language or the cultural practice of the situated environments, is answered in part by Vygotsky’s own learning theory that includes but is not limited to ZPD. It is one that can be
further resolved from Halliday’s explications of SFL. Vygotsky saw learning as a foundational step toward development. Vygotsky’s learning theory claimed that the explicit learning was necessary first. As Walqui (2006) explains, Vygotsky’s definition of the ZPD stipulated that learning could only occur if it was beyond the learners’ current stage of development. Combined with the target cultural, so that development as a participant in that culture is done with appropriate scaffolding.

Collaborative teaching in a content-based language classroom has, by design, components that allow for learning and development to occur as Vygotsky envisioned it. The language teacher is an individual in that situated learning context who has the fullest access to the language of that target culture. As products of the professional development aims of ESL teachers in the United States, these teachers are trained in learning strategies that are designed to support language learners in a situated learning environment.

The problem, however, is that they are not equipped with the theoretical nor the practical knowledge of SFL. Strategy training is not sufficient for learning and development. In order for it to be sufficient, there needs to be an explicit study of the particular language required for development in the situated learning environment. If a content teacher is expressly versed in content material to a point that linguistic control occurs on a subconscious level, then a focus on language learning is impossible unless the language teacher is able to demonstrate that linguistic knowledge on a conscious level that can be explicitly taught. Despite adequate evidence of growth in content knowledge and English language development when teachers and students engage in language analyses of academic text (Schleppegrell, 2013; Schleppegrel, 2004; Schleppegrell, 2001; Schleppegrell, Achugar, & Oteiza’s, 2004; Schleppegrell & de Oliveira,
2006) teachers are not typically trained in these practices in the United States, where preferences for pervasive SIOP materials prevail.

**Review of Content Based Language Learning Research**

Since the publication of *Language and Content* (Mohan, 1986), efforts in the US to implement inclusive ESL program designs have increased, though not without mixed reactions among teachers (Byrnes, Kiger, & Manning, 1997; Reeves, 2006) and administrators (Platt, Harper, & Mendoza, 2003). According to Platt et al., (2003), nearly half of the 29 Florida administrators who were interviewed about ESL program design, expressed “proseparation” statements, effectively resisting full participation of ELLs in mainstream content courses, at least partially because content teachers were not adequately applying the strategies required to support students’ second language learning. Using survey results from 279 teachers at 12 high schools across four districts in a southeastern state, Reeves (2006) reports that the lukewarm reception by content teachers of ESL inclusion is a result of their concern about inadequate time to address their ELL’s needs. Reeves then speculates that teachers’ confidence in their own ability to teach this population may be to blame (p. 137). In his discussion of a survey involving 191 general education teachers across three different states, Byrnes et al., (1997) attributes negative attitudes toward ELLs to the geographical location of the school, as well as lack of education, training, and experience with this particular demographic. Research and trends indicate good reason for moving ESL education into content courses alongside native-speaking peers, however, educators’ concerns about its implementation remains to be addressed and therefore threaten its potential. Quelling these concerns depends heavily on promoting the existing evidence that supports content based language learning (CBLL) and on the formation of close professional
relationships, in which ESL educators work with parity alongside content teachers, in order to share the knowledge and skills necessary for reaching all learners.

Since the original call for CBLL (Mohan, 1986), subsequent research has adequately supported the idea that language and content are best learned simultaneously. Theories of language socialization (Schieffelin & Ochs, 1986; Watson-Gegeo, 2004) suggest that language is acquired via interaction with a community that uses it for similar purposes; it is impossible, therefore, to separate language from the knowledge it represents nor from the knowledge it constructs, and it is equally impossible to learn language separate from culture. According to proponents of Systemic Functional Linguistics (Aguirre-Munoz, Park, Amabisca, & Boscardin, 2008; Achugar, Schleppegrell, & Oteiza, 2007; Halliday, 2004), ELLs are able to acquire language, when they can assess the linguistic structures that accomplish particular functions in the target community (Mohan & Beckett, 2001; Huang & Morgan, 2003; Huang, & Normandia, 2007; Schleppegrell, 1998; Schleppegrell, Achugar, & Oteiza, 2004; Vickers, 2007). Emerging from this body of research is the use of the Knowledge Framework (Mohan, 1986), which is used to delineate these functions in academic contexts. For example, a contrastive analysis of Schleppegrell (1998) and Huang & Morgan (2003) reveals two different roles for language within a secondary science classroom. In her focus on descriptive writing, for instance, Schleppegrell (1998) is able to identify frequently used grammatical structures, such as relational verbs, possessive modifiers, and relative clauses, thereby permitting students to notice weaknesses for future development. Huang & Morgan (2003), on the other hand, focus on more macrolevel discourse markers, including, but not limited to, generic references, relational transitivity, and additive conjunctions. The sophistication of the linguistic skills identified in these studies could not have occurred without ELLs’ immersed study in the science content.
Despite the evidence apparent within the KF, no doubt a prudent and necessary means for simultaneously measuring both content knowledge and language growth in secondary ESL settings, mainstream ESL education, CBLL, and language socialization continue to encounter serious obstacles.

In application, the inclusion of ELLs in content courses presents barriers for these struggling students (Duff, 2001; Harklau, 1994), for their content-based teachers (Pawan, 2008; Wang, Many, & Krumenaker, 2008), and for administrators (Callahan, 2005). In her study of 25 secondary ESL students included in one of two sophomore social studies classes in Canada, Duff (2001) reports that a serious threat to full participation and resulting success in the class were familiarity with references to American pop culture. Students who were not familiar with these references were less likely to communicate in the target language. Similarly, Harklau (1994) noted that among four case studies in a San Francisco-area high school, there were few opportunities for students to communicate in the target language when enrolled in inclusion courses. Additionally, there were concerns about receiving adequate feedback from content teachers. The teachers in Duff’s investigation were chosen because of their enthusiasm for trying new pedagogical approaches, but even when content educators possess positive skills, results can be negative for ESL students. Wang et al., (2008) describe an ethnographic study with a veteran teacher of ninth grade social studies in the southeastern United States. Of the 29 students enrolled in the teacher’s class, only five are native English speakers, and so the teacher is capable, in fact, quite good, at providing differentiated instruction, but, according to researchers, content material was shortened and simplified, as a result. Such practices may “… come at the expense of the quality of learning” (p. 80). This point is underscored by a study that examined the performance of 355 ELLs placed in low academic tracks at a California high school and
found that these students were first exposed to low expectations and consequently performed lower than native speaking students when the more difficult coursework was available at a later date (Callahan, 2005). These placement practices suggest that more thoughtful structures need to be in place at district levels, in order to ensure fair opportunities for ELLs.
Chapter 3

Methodology

Design

A multiple case study design was used in this research project, in order to explore the complex human and environmental factors at play in a co-taught CBLL classroom. In addition to providing rich detail about the culture that supports these classrooms, case studies gave careful consideration to the unique background experiences of the teachers who design and assess the effectiveness of their instruction for English Language Learners. Three case studies, each occurring within the same building, also provided opportunity for comparative analysis. While this comparative analysis revealed consistencies across the three teams participating in the study, there were also variables and results that were unique to each team and to each of the participant members of the team, as well. As research into co-taught CBLL classrooms continues, longitudinal comparative analyses of case studies occurring in the same setting can reveal more consistencies in the data (Mackey & Gass, 2005).

The array of bilingual education programs in the United States occurs because regional differences in population demographics yield different sets of needs and resources. For this reason, it is difficult and rare to find a quantity of reliable research settings to make the research valid and replicable. To test the relational effects of any approach to bilingual education, an independent variable must be tested in a variety of similar settings with a similar set of participants. Furthermore, these settings must limit the number of outside factors capable of
influencing the effects of that independent variable. In the case of this research, the independent variable is the intensive professional development experience provided by the researcher. It is a variable that can certainly be replicated in other settings, but a key element of the research questions here casts doubt on how available these settings would be for verifiable quantitative research.

The scarce availability of similar settings for bilingual education is pronounced in the Midwest, as well as other geographical regions of the United States where bilingual populations make up a relatively small segment of the population when compared to coastal states such as California, Texas, Florida, North Carolina, New York, and Illinois. Indeed, this study takes place in the top 1% of districts in the state in regards to the percentage of the student body who are ELLs and is in the top 2% of districts in regards to the total number of ELLs enrolled. To find comparable districts capable of implementing this professional development model on a similar scale for the purposes of validation and replication is difficult, if not impossible. For this practical reason, an exploratory and descriptive multiple case study design is used in this research.

The nature of the questions under review here also lends itself to case study research. Individual teachers are the focal point of research about how co-teaching dyads choose goals and objectives for a classroom that is uniquely their own, consisting of their own unique set of students with their own unique historical and family backgrounds. When research attempts to assess the actions of individuals, then qualitative descriptive analyses often prove to be the most revealing avenue. A reliable way to triangulate and thereby verify results where variables are complex, as they are in the human endeavor of education, is via case study research (Yin, 2011). According to and Jack (2008), the multiple case study design makes it possible to explore a
“phenomenon within its context using a variety of data sources (p. 545).” Together, the three case studies under review in this study provided numerous data sources within a similar context, and it consequently provided evidence of the effect of an intensive professional development experience for ESOL co-teachers who were tasked with showing student growth in content knowledge and second language acquisition.

**Method**

The action research cycle of (1) reflection, (2) planning, and (3) action, guided the teachers’ participation in the research study, facilitating explicit reflections about their co-teaching experience, as well as their plans for the future, and then directing those plans into action during classroom instruction. The researcher who served as a professional development provider facilitated each stage of the action research cycle. The researcher captured data regarding teachers’ background experiences and assumptions, their reflections on both teacher and student performance, and their own behavior during classroom instruction at each stage of the action research cycle.

The researcher designed the following activities to collect data:

- Teachers’ goals and objectives for a co-taught K12 CBLL classroom were gathered in preliminary professional development and training activities, as well as in the reflection and planning stages of the action research cycle, which recurred three times throughout the study.

- Teachers’ collaborative roles as co-teaching professionals working together for planning purposes, as well as for instructional purposes in the classroom were gathered from reflection and planning meetings and from observational notes taken during classroom instruction.
• Teachers’ instructional practices were gathered solely from observational notes taken during classroom instruction.

Procedure

Over the course of six months, from November 2010 to May 2011, collaborative work with co-teaching dyads occurred in one of three ongoing activities: (1) professional development training, (2) collaborative reflection and planning meetings with the teachers, and (3) classroom observations. Data was captured using the following tools: (1) a concept map prioritizing key topics apropos to CBLL classrooms, (2) three fishbone diagrams, one created by each of the respective co-teaching dyads participating in this study, (3) twelve Collaborative Assessment Logs completed by the researcher and professional development facilitator during co-planning and reflection meetings with each of these dyads, and (4) eleven sets of field notes collected by the same researcher during classroom observations.

Professional development with embedded support. Training, which began in October 2010, included descriptions of the six co-teaching models espoused by Cook and Friend (1995). Since ESOL teachers, similar to Special Educators are more likely to be relegated to the role of an aide, the traditional model of co-teaching in these situations is the one-teach, one-assist model. In this situation, ESOL teachers assist their ESOL students in the content classroom, often clustered in the back of the room, as the content teacher delivers instruction. By explicating five other models of instruction, Cook & Friend (1995) provide options for these teaching relationships to be equal while increasing the functionality that comes with having two teachers in one classroom. These additional models include the one-teach, one observe approach, as well as alternative, team, parallel, and station teaching. In addition to studying these six models,
teachers engaged in foundational conversations about common beliefs, pre-requisite skills, and administrative supports recommended for co-teaching success (Cook & Friend, 1995).

Data collection tool: concept map. The concept map was used as a data collection tool during initial professional development activities. During a collaborative conversation about the research-based teaching and learning strategies for ELLs, all of the teacher participants collaborated to complete a concept map that represented their knowledge of these teaching and learning strategies and their purpose for a co-taught CBLL classroom. The concept map was first encouraged for elementary science contexts by Novak (1990), though Novak & Canas (2008) provide a comprehensive notation of how they can be used in a variety of contexts to represent knowledge and describe relationships between the concepts represented on the map.

It was chosen as a data collection tool for this study because of its ability to both facilitate and capture collaborative conversations about a relevant knowledge base and because of its history of application to science classrooms, multicultural science classrooms, and to teacher preparation and training programs. Kinchin, Hay, & Adams (2000) describe instances in which students’ concept maps inform teachers’ planning for classroom instruction. Teachers in training can use concept maps, as well, in order to track teachers’ developing pedagogical knowledge (Artiles & McClafferty, 1998; Breyerback & Smith, 1990).

In this study, teacher participants used a concept map to describe research based strategies for ELLs, such as SIOP strategies and co-teaching models. They also identified several domains of knowledge (Novak & Canas, 2008) related to these strategies, including goals for ELLs in standardized testing and in second language acquisition. As a tool, the concept map helped identify priorities for the teachers as they identified goals for their co-teaching practice and as they describe the role for these strategies in their particular classroom.
Data collection tool: Fishbone diagrams. The fishbone diagram was also used as a data collection tool during initial professional development training activities. Resembling the concept map, the fishbone diagram is used traditionally by students in primary and secondary science classrooms. In these contexts, students use the fishbone diagrams to represent their developing knowledge of cause and effect relationships between science concepts presented in reading material (Clary & Wandersee, 2010). Similarly, they can be used in teacher preparation programs using action research methodology (Kroeger, Embury, Cooper, Brydon-Miller, Laine, & Johnson, 2012).

For the teacher participants in this study, each collaborative team identified a primary goal for their co-teaching experience using fishbone diagrams. This was considered and effect they wished to accomplish via collaborative practice. Then, teachers considered what factors needed to be addressed in order for this goal to come to fruition. Three co-teaching teams, therefore, created three respective fishbone diagrams during initial professional development and training activities, capturing a set of goals and objectives they wished to address throughout the duration of their participation in these research activities. Evidence that these goals and objectives were present throughout the action research cycle as the teachers reflected and planned for instructional practice.

Collaborative reflection and planning meetings. Following initial professional development and training activities, teachers met bi-weekly to reflect and plan for classroom instruction that was observed by the researcher in the following week. To facilitate this reflection and planning conversation, the Collaborative Assessment Log was employed as a tool to capture data related to the teachers’ perception of their co-teaching practice. Therefore, in order to answer the first research question regarding the identification of teachers’ goals, concept maps
and fishbone diagrams were used in initial professional development meetings in which all teachers participants attended, but the Collaborative Assessment Log during reflection and planning meetings which only included the two members of the co-teaching dyad and the researcher-as professional-development-facilitator.

*Data collection tool: Digital recordings of collaborative assessment logs.* Collaborative Assessment Logs were used to both facilitate and capture data from the collaborative reflection and planning meetings. Athanases et al., (2008) illustrated the value of collaborative assessment logs for facilitative discussions between mentor teachers and preservice teachers developing practice for primary and secondary classrooms. In this study, the collaborative assessment log was used during the reflection phase of the Participatory Action Research (PAR) cycle. This phase began with reflection and planning meetings, facilitated by the principal investigator, who was able to capture teachers’ perceptions of their ability to achieve self-identified goals, of their assumed roles in the classroom, and their attempts to achieve their goals in instructional practice.

During the co-planning meeting, co-teachers used the four-part structure of the *Collaborative Assessment Log (CAL)* to guide their conversation. With particular focus on the chief area of concern identified by the fishbone diagrams in the professional development workshop, but also in regards to general classroom instruction, the CALs required teachers to discuss (1) what was working, (2) challenges, (3) next steps, and (3) resources required to complete the next steps. Using a digital pen, audio recordings of these structured reflection and planning meetings supplemented notes documented in the CAL.
Classroom observations.

Using a digital pen the researcher recorded field notes of classroom observations during the action phase of these cycles. Three iterations of this cycle occurred on a bi-weekly basis throughout an entire academic quarter.

*Data collection tool: Digital recordings of field notes.* During the second week of the bi-weekly cycle, the PI observed classroom instruction, taking notes with a digital pen to supplement audio recordings of the class with written notes. The PI focused the attention of observation and notes on the role and behavior of each classroom teacher, particularly in regards to the six co-teaching models and self-identified goals identified in the professional development workshop. Digital recordings, therefore, provided a record of classroom activities that was not only recorded from the researchers’ own perceptions and ability to write about observations, but that was supplemented and verified by audio recordings.

Table 1

*Data Collection Procedures*

<table>
<thead>
<tr>
<th>Event</th>
<th>Tools</th>
</tr>
</thead>
</table>
| 1. Initial Professional Development Training | Fishbone Diagram  
            Concept Map |
| 2. Action Research Cycle: set goals, plan mindfully to reach these explicit goals, to implement these plans, and then to reflect on progress made toward reaching those goals | Collaborative Assessment Log (CAL)  
            Digitally Recorded Field Notes |
| • Four bi-weekly reflection and planning meetings |       |
- Four bi-weekly classroom observations

Digitally Recorded Field Notes

Note. Data was collected at nine different events for each of the participant teams. At each of these events data was collected using a tool appropriate to the purpose of that event. During initial professional development training, fishbone diagrams and concept maps were used at data collection tools. During reflection and planning meetings, the CAL was used along with digitally recorded field notes. Observational digitally recorded field notes were used to capture data from classroom observations.

Participants and setting. This study was conducted at a middle school in a Midwestern urban fringe district. Its close proximity to a much larger network of city schools combined with its incorporation of affluent, working class, and impoverished suburban communities contributes to a diversity that is lacking in many urban districts, as well as many suburban districts of comparable size. According to statistics provided by the state’s department of education, the district enrolled over 5,238 students in the 2010-2011 academic year, with 1,133 of these students attending the middle school where these research activities occurred. Across the district, 585 students, or 11.2% of the total student population was classified as Limited English Proficient (LEP). Of the 609 public school districts in the state of Ohio, only 11 school districts had more LEP students enrolled; moreover, it ranked fifth in the state as the percentage of the total student body who were classified as LEP. As a result of this historical experience with English Language Learners, the district built and maintained a reputation as one that adhered to recommendations for program design, as outlined in professional literature and research (Collier and Thomas, 2004).

Recruitment. Training in co-teaching practices and differentiated instruction was made possible by a grant that supported a collaborative relationship between an urban university in the vicinity and a local non-profit school devoted to enhancing instruction for students with
disabilities. For four years, the grant funded what would become an intensive three-day workshop for collaborative teams of in-service general educators and special education teachers. For the Secondary Education, Middle Childhood Education, and Special Education departments at the university, these workshops were designed to improve placements for pre-service teachers. Despite the university’s best efforts to train pre-service teachers in evidence based practices, practicum and internship experiences were often limited in their capacity for supporting implementation of these practices in the field. These intensive workshops, then, allowed the university to identify and support mentor teachers in the practices it desired for its teaching candidates. For two years, the principal investigator in this study worked as a facilitator in these workshops, eventually expanding its focus to include teams of content teachers and ESOL professionals that faced many of the same challenges as their counterparts in Special Education and General Education.

At the outset of this investigation, this district was beginning a long-term transformation that would allow it to better support 21st Century Learning. In the previous year, voters in the district approved a bond issue that allowed it to proceed with plans to build a new campus for grades six through 12. Evident in the building’s design plan was the district’s interest in pursuing collaborative teaching and inquiry based learning. As a result, the building principal was interested in initiating professional development in these practices on a small scale. In the spring of 2010, the school’s ESOL department head was contacted by the principal investigator in a routine email recruiting content/ESOL dyads for participation in the intensive co-teacher training workshop. Since a commitment to attend the intensive workshop for Special Educator/General Educator dyads was not possible until after the start of the 2010-2011
academic year, the principle investigator agreed to conduct a three-day workshop for ESOL teams at the middle school site.

Table 2

*Classroom Teachers*

<table>
<thead>
<tr>
<th>Grade</th>
<th>ESOL Teacher</th>
<th>Content Teacher</th>
<th>Student population</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th</td>
<td>52-year old female Spanish speaker</td>
<td>33-year old male Three years of teaching experience</td>
<td>27 students total 12 ELLs</td>
</tr>
<tr>
<td>7th</td>
<td>41-year old male Spanish speaker 15 years of teaching experience</td>
<td>38-year old female New to building and grade level</td>
<td>20 students total 14 ELLs</td>
</tr>
<tr>
<td>8th</td>
<td>Spanish-speaking aide Six years of experience with the building’s ESOL program.</td>
<td>34-year old male 12 years of teaching experience.</td>
<td>20 Students total 12 ELLs</td>
</tr>
</tbody>
</table>

*Note.* Three co-taught science classrooms were affected by these research activities, including a sixth grade class with 27 students, and seventh grade classroom with 20 students, and an eighth grade classroom with 20 students.

*Teacher participants.* Three teaching dyads participated in this study: each dyad consisted of one science teacher and one ESOL teacher at the sixth, seventh and eighth grade level, respectively. At the sixth grade level, a 33-year old male science teacher with three years
of teaching experience co-taught with a 52-year old female Spanish teacher with 24 years of teaching experience. She spoke Spanish as an additional language, was a certified Spanish teacher, and held an endorsement from the state to teach English to Speakers of Other Languages. The seventh grade ESOL teacher was a 41-year old male who also spoke Spanish as an additional language. With 15 years of teaching experience, he was a certified Spanish teacher in addition to being endorsed by the state as a teacher to speakers of other languages. His teaching partner was a 38-year old woman who was new to teaching science at the middle school level. At the eighth grade level, the ESOL “teacher” turned out to be a bilingual aide, a Spanish-speaker who worked with the ESOL department at this particular middle school for six years. During recruitment activities, the principal identified her and her co-teaching partner as candidates for participation in the professional development activities, but her status as an aide without teaching credentials was not revealed until after research activities commenced. Still, their participation is valid given the co-taught CBLL structure of their course and their combined experiences teaching this particular student demographic in this community. Her partner, an eighth grade science teacher, was a 34-year old male with twelve years of teaching experience.

The student population in these ELL inclusion classrooms were consistent across grade levels. Two of the classrooms, at the seventh and eighth grade levels, had approximately 20 students enrolled in them (the number of total students enrolled in each class periodically fluctuated because of new enrollments or families exiting the building). At these two grade levels, nearly one-half of the total students, nine ELLs respectively, were identified as LEP. A majority of these ELLs were Spanish-speakers, though each class consisted of Wolof and French speakers from Mauratani, a Mandarin Chinese speaker from China, as well as a student from
Macronesia. At the sixth grade level, approximately one-third of the 27 students enrolled in the class were ELLs, a majority of them being Spanish-speakers.

ELLs were placed in these classes because of their English Language Proficiency level, determined by performance on state assessments and an initial placement test. The students’ length of time in the U.S. is also a factor, permitting students who have recently enrolled in United States schools with access to ESOL services. Since these students are newcomers who require English Language Development in order to comprehend and succeed in the language of schooling, they are not only enrolled in co-taught CBLL classrooms, but they are also enrolled in a support class for ELLs, as well as ELD course. Another ESOL certified teacher in the building taught this additional course.

The ELL participants in this study, therefore, were placed in the same classes throughout the entire school day, including co-taught CBLL classes in Science, Math, and Social Studies. In each of these CBLL classes, students work with the same ESOL teacher who is participating in research activities with their science co-teaching partner. They were also placed together in the ELD classroom, where they work exclusively with the ESOL coordinator for the building.

The ESOL teacher participants co-teach content based classes for the same students throughout the school day and also teach a support bell class where ELLs are given additional time and instruction in content material. The content teacher participants teach the same content material to other classes at the same grade level.

**Biases and Threats to Validity**

My role in professional development activities, as well as in data collection procedures may raise questions about researcher bias and validity. I provided instruction during professional development activities on three different occasions throughout one academic year, including two
times prior to teachers’ participation in three iterations of the action research cycle. I presented a review of co-teaching models and practitioner action research (PAR). In addition to providing professional development support, I was also concerned with recording data that would answer the research questions in this study.

**Researcher as professional development provider.** In addition to providing instruction in co-teaching models and PAR, other professional development activities included the facilitation of reflection and planning meetings. These meetings were conducted on a bi-weekly basis throughout the duration of the study. Collaborative reflection and planning meetings were designed to support teachers in their efforts to identify instructional strategies that work, as well as areas of concern that they wished to address as co-teachers, including both instructional practices and student performance. Additionally, teachers aimed to articulate an action plan for implementing a co-teaching model with fidelity. Since this meeting was facilitated by the researcher-as-professional-development-provider, teachers benefited from my analysis of appropriate co-teaching models and their level of implementation.

My presence in these meetings certainly influenced the teachers’ decisions about goals and objectives for their co-taught CBLL classroom. At the same time that teachers were depending on my guidance in the implementation of co-teaching models and confiding with each other as I facilitated their reflection and planning meeting, I served a separate role as a researcher and data collector.

**Researcher as data collector.** The researcher in these cases was closely related to both the subject of the study and the analysis of its data. I was, in some respects, a secondary participant who was able to setup and maintain setting conditions. At the same time, I was occupied with accurate collection of data for providing dependable results. This does not present
a conflict of interest, however, since the methods employed are reliable ones, supported in the professional literature, for adequately revealing reliable categories in qualitative data. Traditionally, researchers who wish to gain evidence related to the research questions prefer an unbiased key goal in reflection and planning meetings was the collection of data for the research study. At the same time that I was facilitating teachers’ identification of objectives for instructional practice, I was also recording those conversations to help answer the research questions under review in this study.

Perceptions of evaluative motives. Another concern with validity may arise from teachers’ perception of classroom observations. Teachers were assured that observations were focused on the implementation of co-teaching models and the teachers’ abilities to address the needs of their bilingual students, but teachers’ concerns about these observations being used by the administration for evaluative purposes could fetter those teachers’ participation in reflection and planning conversations, as well as their actions in the classroom.

Analysis

The purpose of this study was primarily exploratory, though certain aspects of the research questions were also descriptive in nature. This study sought to explore teacher’s goals for co-taught classrooms, to identify the roles that they assume, and to describe the actions they take during classroom instruction.

Preliminary data collection was conducted during an initial three-day professional development workshop. Teacher teams used fishbone diagrams to recognize a problem that existed in their co-taught environment and to explicate various causes for these problems. All participants collaboratively constructed a concept map to identify and prioritize professional development topics for implementation. With these initial tools, *fishbone diagrams and concept*
maps, the researcher was to identify patterns as they emerged, for exploiting those patterns in future research.

Open coding of professional development and training activities, collaborative reflection and planning meetings, and classroom observations revealed an array of initial codes. Codes are organized and presented in Figure 1. In the vein of qualitative research, patterns and phenomena were discovered in the data. These patterns reflected a set of goals for ESL co-teaching teams and they suggest a set of players that influence teachers as they participate in these professional development activities. Initial codes also document the actions taken by professional educators working with linguistically diverse students and the results they experience as they work to meet their individual goals.
Figure 1. Initial dimensions found in the data. In the first round of open coding, everything that was discussed in professional development training, including both reflective and planning meetings, as well as classroom observations could be placed in these categories.

Initial codes revealed a need to view the data through a conceptual framework that valued collaboration. It was immediately apparent that the participants in the study recognized that a variety of players influence the degree of their success in co-teaching ELLs. These players include the people in the classroom, the teachers and students, and they include the intangible influences of school culture, social culture and administrative constraints. The data, therefore, was viewed through a lens of collaborative culture-building efforts in education and more specifically in co-teaching (Davison, 2006).

Initial codes were not all related to the players or influencers in the co-teaching efforts. Participants also referenced concepts related to processes, outcomes, and resources. Many of these concepts were elicited intentionally by the research questions, the action research design and the tools employed throughout that process, including the Collaborative Assessment Log, fishbone diagrams, and concept maps. These concepts of processes, outcomes, and resources
CHAPTER 4

Findings

Introduction

This research project investigated three case studies of teacher teams that were influenced by their own unique set of circumstances and background experiences. To understand these individuals and to help differentiate the effect of the complex factors that would undoubtedly influence these teams, findings are organized by the three research questions under investigation and then delineated for the three respective participating teams. Indeed, presenting the results separately emphasizes the divergent paths each team followed throughout this study, whether that path was designed by choice or was a result of factors beyond teachers’ control. Each narrative provided its own set of evidence about the three research questions under investigation, categorized as: (1) teachers’ goals and objectives, (2) teachers’ roles, and (3) teachers’ instructional practice,

Prior to the presentation of the three separate case study narratives, a general overview of each teacher participant’s background experience is presented, as well as a general description of the prerequisite conditions that proved unique to each team. These two sets of contextual factors proved to have a striking influence on the results of this study. Therefore, findings will be presented first with an introduction to the teams, followed by a brief analysis of prerequisite conditions; they will then proceed to describe data related to the research questions.
For the first research question related to teachers’ goals and objectives, details from preparation and training activities, as well as from reflection and planning meetings will be provided from each of the three case studies. For the second research question related to teachers’ roles, other data from the reflection and planning meetings, as well as from classroom observations will be described. Finally, the third research question related to instructional practice will be addressed via classroom observations of each of the respective teams.

**Introduction of Teams**

A common strength among each team was its years of background experience with classroom instruction. At least one member of each team was a veteran teacher with ten or more years of experience in the classroom. The sixth grade ESOL teacher, referred heretofore as Kelly, experienced 24 years in the classroom; the seventh grade ESOL teacher, heretofore referred to as Robert, reported 15 years in the classroom; the eighth grade science teacher, who is provided with the pseudonym Joseph, was in his 13\textsuperscript{th} year of teaching. Conversely, challenges shared by two of these teams stemmed largely from the inexperience of the other member. The 24 years of Spanish and English language instruction at the sixth grade level was matched with three years of content-based experience from her co-teaching partner, referred to here as Daniel. At the seventh grade level, however, 15 years of Spanish and English language instruction was matched with just three years of experience in science teaching from “Michelle”.

Michelle’s background experience was a challenge for the seventh grade team, since she possessed just two years working as a third grade teacher at an elementary school in the district, as well as one year as a long term substitute teacher in a neighboring elementary school. She was transferred to the middle school where she repeatedly acknowledged the challenges she faced in this transition. Throughout her participation in this study, she would cite struggles with the
curriculum map, with classroom management, and with members of the administration. From the beginning, this team struggled with the science teacher’s inexperience with the curriculum and with the students’ age level. It is important to note that the elementary school in which she taught prior to her placement at the middle school holds a majority of the English Language Learners in the district, and so she was at least somewhat familiar with best practices for teaching this particular demographic, including practices outlined by the SIOP model (Echevarria, Vogt, & Short, 2012). These assets, combined with the ESOL teacher’s extensive experience with this student population, and perhaps to a greater degree, by their ability to meet regularly during their common planning period did much to help them overcome challenges related with background experience.

Another decisive asset for each of these teams is their ability to minimize the social distance between the bilingual students and the culture of the school. This asset was brought to each team by the background experience of the ESOL teacher. An overwhelming majority, 76%, of the student participants in this study were Spanish speakers, and so they all benefited from the work of a Spanish speaking teacher embedded in their science class. Certainly, students of other linguistic backgrounds also benefitted from the ESOL teacher’s bicultural backgrounds, since two of the four types of scaffolding required for ELLs, after conceptual and linguistic, are cultural and social scaffolding (Pawan, 2008). The TESOL training possessed by two of the three teacher participants in this study coupled with the multi-cultural and multi-lingual background experiences of all three ESOL teachers were assets to the co-teaching partnership, because they allowed the teams to provide social and cultural scaffolding. Additionally, these background experiences also provided insights into the processes required to achieve in an English-speaking academic environment.
Prerequisite Conditions

Each narrative explicitly addresses underlying assumptions about prerequisite conditions, because these foundational factors bare heavily on the outcomes experienced by each of these teams. This research study attempted to investigate the potential for ESL co-teaching that is reflective of previous research into different models of co-teaching and that describes prerequisite conditions for a successful co-teaching relationship. This study, however, did not attempt to outline any new co-teaching models, nor did it attempt to discover any new prerequisite conditions required for co-teaching models to exist at all. Still, it is imperative to discuss indicators of prerequisite conditions that emerged in this study and that could inform new inquiries. Additionally, this research project attempted to take a step forward to determine what TESOL teachers and collaborating content teachers can expect to achieve if they are given the support of prerequisite conditions and training in co-teaching.

These findings suggest potential for identifying what teachers and students can individually produce for the benefit of emergent bilingual students. This study confirms previous findings about the need for administrative support and parity in order for co-teaching teams to succeed. At the same time, it reveals more details about specific indicators of administrative support and parity that were not previously identified. Therefore, the results of this study encourage more adequately scrutinized research into SIOP strategies. Certainly, future research will confirm their importance to second language classrooms in the United States. Also, it will likely provide a better description and outline of their proper implementation. These findings also suggest the potential for further inquiry into more rigorous practices in a K12 second language classroom.
Parity. A majority of the prerequisite conditions required for a successful co-teaching partnership rests on the level of administrative support provided to those partnerships, but another key foundational factor is the extent to which parity exists between the two members of the team. Findings from these three case studies reveal a variety of indicators in both of these categories of prerequisite conditions. At the root of parity, of course, is one partner’s respect for the knowledge, experience, and contributions of the other partner. This indicator was apparent with each of the three participant teams in this study. It was a key factor for recruitment decisions, but the researcher did not discern other indicators of this factor’s presence in the research setting until data collection activities commenced. These indicators will be detailed more thoroughly in the narrative of findings for each respective case study, appearing within a context described in the narrative in much the same way as it appeared to the researcher.

Administrative support. At the root of administrative support for co-teaching is also a respect for the knowledge, experience, and contributions of a collaborative team of educators, supported by a provision of time for the teams to develop and enact plans. Again, this indicator was present for each participant team in this study during recruitment activities, but other indicators of administrative support surfaced in unique ways for each partnership. The context in which they exist separately for each team can be found in the respective case studies, but it is important to first review a summary of these indicators as they appeared initially, before a more concerning lack of other indicators became evident to the researcher during data collection activities.

Initial indicators of administrative support. Initial indicators of administrative support suggested such a level of commitment to the research study that it was assumed that teachers would be provided with the support they needed to articulate distinct goals and objectives for
their teaching and practice. These initial indicators are evident in their support of the conditions described below:

1. Teachers were provided with intensive professional development training on three different days throughout the academic year, in addition to embedded support from the researcher, who facilitated three iterations of the action research cycle, including reflection and planning meetings, as well as classroom observations.

2. Content-based language classes existed in this setting, meaning the administration recognized the value of creating classes where content and language teachers collaborate to improve student performance in grade-level content, as well as academic literacy. ELLs were enrolled alongside native English speaking peers in co-taught content-based courses where they benefited from the expertise of a bilingual teacher, as well as a highly qualified content teacher.

3. Common planning time was built into the instructional day for two of these three teams. It is important to note that the team that was not afforded this luxury was the sixth-grade team, which actually displayed more behaviors of success in their co-teaching experience, because other indicators of administrative support and individual background experiences compensated for what they lacked in common planning time.

**Missing indicator of administrative support.** Common planning time was a missing indicator for one of the three teams in this study. This missing indicator, though not an ideal circumstance by any means, did not prove to be a significant challenge, since teachers agreed to find alternative means for collaboration and support. Participant teachers found time to collaborate at lunch, between activities in the classroom, and before and after the classes began each day. Furthermore, the ESOL teacher on the sixth-grade team, the one team that lacked
common planning time, possessed the most experience in teaching, which was undoubtedly an asset needed to minimize the time necessary for planning and the skills required for implementation in the classroom.

Challenges that resulted from a lack of co-planning time were overcome by the administration’s commitment to other indicators of support: the administrators helped maintain the professional development activities of the researcher, providing the teacher teams with intensive professional development that included ongoing embedded support. This compensation for support services seemed to provide an acceptable amount of time for collaborative reflection and planning meetings, though it should be noted that daily or weekly meetings would provide more time for collaboration than the intensive professional development program was capable of doing.

Other indicators, ones that lie at the foundation of administrative support, were not apparent during recruitment activities and were only identified during the data analysis process via data collection tools. Therefore, these additional indicators will not be discussed until after the presentation of findings, as they did in fact turn out to be legitimate threats to co-teaching efforts.

It is important to consider foundational characteristics of each team, of those qualities possessed by individual members of the team prior to the onset of research activities, as well as those extraneous factors beyond their control, which would presumably influence their level of success. Most notable among these qualities are threats unique to each team, not only because they jeopardized the success of their co-teaching endeavor, but also because threats sometimes revealed assets that allowed teams to overcome those threats.
Threats to prerequisite conditions were experienced by each of these respective dyads, with varying levels of consequences for their involvement in these activities. Kelly and Daniel, members of the sixth-grade team, did not have a common planning time, as the other two dyads had. Inadequate administrative support was a serious threat for Robert and Michelle, members of the seventh grade team. Liliana and Joseph, member of the eighth grade team, did not possess parity. As a result of these various levels of prerequisite conditions, there were varying levels of consequences for their development as a co-teaching team.

Table 3

<table>
<thead>
<tr>
<th>Prerequisite Conditions Possessed by Each Team</th>
<th>Administrative Support</th>
<th>Parity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sixth Grade Team</td>
<td>Implementation of co-teaching</td>
<td>Was achieved between members of the co-teaching team.</td>
</tr>
<tr>
<td></td>
<td>Program design</td>
<td>Was achieved between members of the co-teaching team and their colleagues in the building.</td>
</tr>
<tr>
<td></td>
<td>Allocation of professional development resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No common planning time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distrust between a member of the team and administrator(s).</td>
<td></td>
</tr>
<tr>
<td>Seventh Grade Team</td>
<td>Implementation of co-teaching</td>
<td>Was achieved between members of the co-teaching team.</td>
</tr>
<tr>
<td></td>
<td>Program design</td>
<td>Was not achieved between science teachers and her colleagues in the building.</td>
</tr>
<tr>
<td></td>
<td>Allocation of professional development resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Common planning time provided.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distrust between a member of the team and administrator(s).</td>
<td>Was not achieved between members of the co-teaching team.</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Eighth Grade Team</td>
<td>Implementation of co-teaching</td>
<td>Was achieved between science teachers and her colleagues in the building</td>
</tr>
<tr>
<td></td>
<td>Program design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allocation of professional development resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Common planning time provided</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No apparent distrust between a member of the team and administrator(s).</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Each of the three participating co-teaching teams in this study possessed a different set of prerequisite conditions, outlined here according to four indicators of administrative support and two indicators of parity.

**Research Question One: Teacher Goals**

Each team participated in data collection procedures in order to (1) learn about co-teaching and action research in professional development activities, (2) reflect on classroom performance and plan instructional design, and (3) implement strategies into classroom practices. The first instance of participants’ reflection activities occurred during initial whole group professional development activities, which yielded a list of goals and objectives identified in fishbone diagrams, as well as a concept map outlining and prioritizing professional development topics. Following the initial whole group professional development activities, dyads participated in several iterations of the action research cycle of reflection, planning, and implementation. In most cases, particularly with the sixth grade team and the seventh grade team, rather than with eighth grade team, the action research cycle focused on the goals and topics identified in
professional development activities, and therefore evidence of their presence in teachers’ instructional practices and their development throughout the research study can be located and tracked.

**Goals identified during preparation and training activities.** As a whole group of six participants, participants created a concept map that listed the following topics of focus in their co-teaching endeavor: co-teaching models, professional learning communities, SIOP components, content and language objectives, literacy development, vocabulary acquisition, differentiated instruction, standardized testing, motivation, and engagement.

![Concept map of teacher foci](image)

*Figure 2. Concept map of teacher foci. During the initial professional development session, all six teacher/participants collaborated to create this concept map of focus areas in a co-taught ESOL science classroom.*

Then, in dyads, participants completed a fishbone diagram to help articulate their individual goals as a co-teaching team and to anticipate challenges they would need to address in order to achieve their self-identified goal. Kelly and Daniel, members of the sixth grade team,
identified Student Articulation of Ideas: Vocabulary Acquisition and Application as their primary goal and recognized the following objectives to consider in order to meet that goal: (1) Learning Activities, Interaction, Grouping, (2) Mental Processes, Cognition, and Sociocultural Influences, and (3) Resources and Materials. Robert and Michelle, members of the seventh-grade team, identified Motivation to Learn as a goal for their co-teaching experience. In order to achieve this goal, they recognized a need to study (1) Models of Co-Teaching, (2) Instructional Strategies, (3) the SIOP Model, and (4) Resources, Materials, and Technology. The eighth grade team consisted of Liliana and Joseph, who also chose Motivation as a primary goal, but they chose to affect students’ motivation to learn by addressing the following objectives: (1) Sociocultural Influences, (2) Academic Support, and (3) Access to Materials.

Individual team goals and the foci of professional development for co-teachers did appear beyond the initial preparation and training activities. References to specific goals or foci were made repeatedly in reflection and planning meetings. Instructional practices reflecting these explicit conversations were less numerable, but there was, nonetheless, evidence that progress was made for each of the teams. Certainly, the degree of that progress was different for each team and it was more notable for the sixth grade team and the seventh grade team who maintained participation in the professional development activities for the duration of the study. The eighth grade team, as was expected, did not exhibit as much progress for two reasons. First, their participation in the study was truncated by their own lack of desire to engage in the process of action research with a professional development facilitator. Second, their inadequate efforts at creating new roles for the ESOL teacher questioned the extent to which instructional strategies were a new response to the action research process of professional development rather than a set of familiar strategies implemented primarily by the content teacher.
It was clear from notes recorded in the Collaborative Assessment Log and from observational notes taken by the researcher during classroom instruction that the evidence of progress toward reaching the goals and foci outlined in preparation and training activities was a direct result of their participation in professional development activities. Robert and Kelly, the two teachers in this study with state endorsement in TESOL, both made comments during reflection meetings that processes of action research provided them with the opportunity to have explicit conversations about the unique needs of this particular set of learners. In addition, the process provided them with the opportunity to plan and enact new strategies for meeting those needs. What follows is the story of three teams of science and ESOL co-teachers engaging in cycles of action research for improving co-teaching practice for ELLs enrolled in content-based language classrooms at the middle school level.

**Sixth Grade Team**

**Participant description and predictions.** The team that exhibited the most success modifying instruction and engaging students in classroom activities did in fact possess several prerequisite conditions that have been outlined in previous research, but those conditions that were not evident threatened early predictions about the outcomes they might produce. This team consisted of a science teacher, referred to here as Daniel, who had just three years of teaching experience. Though he possessed the smallest amount of total teaching experience, that experience was gained in this particular setting with students of a similar demographic as those participating in this study. He was practiced in grade level curriculum and content material and his pre-teacher training provided him with invaluable tools for classroom management and for designing meaningful learning opportunities for his students. He was also familiar with action
research, and therefore adept at some of the practices employed throughout the planning, action, and reflection cycles that guided professional development activities in this study.

His co-teaching partner, Kelly, was a TESOL endorsed, Spanish-speaking teacher with experience, practice, and a desire to improve the lives and education of this particular population of students. Since this team lacked common planning time, opportunities for reflection and planning meetings to be facilitated by the researcher were limited. Kelly and Daniel conducted much of their planning in the halls, at pre-planned lunch meetings, or in the classroom during student learning activities. Each teacher most often participated in reflection meetings with the researcher in isolation from the other member. In this respect, reflection meetings with Kelly resembled one-on-one interviews where the researcher could ask clarifying questions of one person without that person’s fear of speaking frankly in front of others.

During these reflection meetings, Kelly would often describe her own background in order to articulate the kinship she felt with the Spanish speakers in this school. It was a kinship grounded in both language and class. The working class urban fringe culture of the student participants in this study was similar, in her view, to the working class urban culture of her youth. She used these opportunities to describe her upbringing so that she could also highlight her current role as a mother figure and a champion of bilingual students in her own community. These reflections did much to express her belief in the students’ abilities to achieve, though they were often accompanied with lamentations about her students’ lack of motivation to achieve in school. Kelly’s one-on-one reflection meetings revealed other negative perceptions that would ultimately threaten their success as a co-teaching team, too.

Following the initial preparation and training activities, predictions about this team’s success were grim, because of Kelly’s negative perceptions about the administration. Though
administrative support proved to be one of the most detrimental forces in the co-teaching endeavors, in the end, these predictions about the success of Kelly and her co-teaching partner proved to be false. This team’s experience and possession of other prerequisite conditions compensated for the challenges posed by those conditions that were lacking.

Indicators of administrative support that were lacking revolved around trust between the administration and teachers. It was a challenge that this team did not have a common planning period like the other two teams in this study, however, what proved to be a greater threat was Kelly’s suspicion of the administration’s commitment to initiatives. The ESOL teacher did not fully agree with the value of co-teaching; she did not possess what many refer to as buy-in. Still, she said that she was willing to participate in co-teaching activities to the best of her ability, because that was what was asked of her by the administration. She claimed that she did not believe her co-teaching efforts would be fruitful and that the administration’s emphasis on co-teaching would wane.

Administrative support, therefore, was a complicated element of the co-teaching experience. The existence of administrative support laid the groundwork for this collaborative experience, since the administration created CBLL classrooms for their middle school students and since they allocated resources for teachers to participate in an intensive professional development experience. Administrative support was lacking, however, for the sixth grade team, since they were not provided with common planning time and since there were evidence of distrust between administrators and teachers. The administrative support for and emphasis on co-teaching efforts was enough to convince this ESL teacher to reserve her own judgments about the value of co-teaching, and so she continued to use her knowledge, expertise, and practice to address the needs of her students and the needs of her co-teaching partner.
**Preparation and training.** Initial reflection and planning activities conducted during professional development days required teams to identify a goal for their co-teaching of ESL students in content classrooms; additionally, professional development activities yielded a list, compiled collaboratively between both members of the team, of challenges facing ELLs in the science classroom. Fishbone Diagrams were used in the activities to record the team’s reflections and goals.

Kelly and Daniel identified “student articulation of ideas” and “vocabulary acquisition and application” as their primary goal for ELLs in a middle school science classroom. They described a need to address the role of interaction in the classroom which is affected by student behavior, time allocated to different skills, activities, and also by what they perceive to be an inability to properly form effective learning groups, a constraint that is seen as resulting from scheduling and placement issues at the building. For challenges related to mental processes and cognition, they listed the role of the silent period for newcomers and sociocultural constraints such as the effect of peer pressure on the affective filter in students who have been enrolled longer. For challenges related to access to material, they noted a concern about access to technology or having limited supplies for accommodating materials. For challenges related to sociocultural constraints, Kelly and Daniel noted home environments that do not align with the expectations of school. They describe a situation in which the different types of literacy samples that exist at school do not exist at home. They note other challenges to sociocultural constraints, including the race and LEP education gap. This team also mentions a desire for students to have more access to their native language, particularly when studying content vocabulary.
Kelly and Daniel used a fishbone diagram to identify “Student Articulation of Ideas/Vocabulary Acquisition and Application” as a goal for their co-teaching efforts. They noted materials, school culture, external forces, and mental processes in SLA as challenges to address in order to achieve their self-identified goal.

When professional development activities concluded and each team began to work more intimately on co-planning and co-teaching, Kelly and Daniel identified Student Articulation of Ideas and Vocabulary Acquisition and Application as their primary goals. In order to achieve this self-identified goal, they knew they would regularly have to address the following challenges in their classroom: (1) Learning Activities, Interaction, Grouping, (2) Mental Processes, Cognition, and Sociocultural Influences (3) Resources and Materials. During their first co-planning and co-teaching meeting as a dyad, they spoke of these challenges related primarily to these first two groups of challenges, either Learning Activities or Mental Processes. In the following sections, the dyad’s references to these goals and challenges will be described throughout iterative cycles.
of reflection and planning, as well as in their manifestations during instructional practice. The first, second, and third research questions seek to discover (1) what goals do teachers focus on in reflection and planning meetings, (2) what roles teachers assume as they plan to meet their goals and as they enact those plans with students in the classroom, and (3) whether their plans match instruction.

**Team goal: Student articulation of ideas and vocabulary acquisition.** To understand the extent to which goals are reached, references, including both words and actions, to those self-identified goals are identified in Collaborative Assessment Logs and in observational notes of classroom instruction. Early in this study, Kelly and Daniel stated their desire to improve students’ articulation of ideas and to enhance their academic vocabulary acquisition and application. The teachers’ self-identified goal, vocabulary study, was evident in either reflection or planning meetings or in classroom instruction.

**Articulation of ideas and vocabulary acquisition during reflection and planning meetings.** Despite the lack of the common planning time, Kelly and Daniel began this study already functioning as a team. They already seem to have negotiated their roles, though this negotiation occurred primarily through implicit and explicit claims. This explicit and active negotiation of their roles do improve because of this study: from the first planning meeting, Kelly asked for specific communication of content lessons and pacing guides. This is an instance where roles continue to be negotiated and defined throughout the co-teaching process. Regardless of how these roles were assumed, they were roles that could reasonably meet the qualifications of maintaining parity among members of the team, and they were effective in regards to supporting vocabulary acquisition and providing accommodations to both ELLs and
native English speakers in the classroom. Even with their early success, they continued to look for improvement.

The sixth-grade team took advantage of this professional development experience in co-teaching to set goals, plan mindfully to reach these explicit goals, to implement these plans, and then to reflect on progress made toward reaching those goals. For this particular team, these goals provide valuable insight into the potential held by well-working teams of highly qualified individuals. Kelly and Daniel already reported and exhibited success reaching an effective level of parity that honored each members’ knowledge base; they already exhibited success employing research-based instructional strategies, focused on academic vocabulary and literacy, as well as on learning strategies such as graphic organizers; they also exhibited some success with student engagement.

**Team Six research question two: Teacher roles.** The intensive professional development experience, with its embedded support guided by the action research cycle, provided members of the team with opportunities to negotiate their roles in planning and instruction. In most instances, these roles were claimed, assigned, or implied. In rare cases, this negotiation was an active discussion between each member of the team where one member proposes a role, asks for feedback, and proceeds with a plan only after the other member’s input has been taken into consideration. For Kelly and Daniel, the latter does not occur. This is no doubt due in part to the lacking prerequisite condition of co-planning time, since Kelly and Daniel had fewer opportunities to actively negotiate those roles. Their immediate claims on positions and responsibilities in the classroom may have been a means for making up for this lack of co-planning time. These role claims expedite a planning process that was under serious constraints.
The first reflection and co-planning meeting began with Kelly’s description of her role, with claims that she modified instructional materials and worked with students directly in the classroom. Reflection meetings usually began with a discussion about what was working, Kelly began the first planning meeting by describing the work she was having success doing in the classroom. Immediately, they began to discuss processes that seemed to address their primary goal to improve vocabulary acquisition. Kelly stated that she regularly goes over key words with ESOL students, many times providing translations and explanations in Spanish, and providing pictures or other visual materials when possible. A primary responsibility for her as an ESL teacher in a science classroom was to assist students with graphic organizers. While she focused primarily on responsibilities that center around these vocabulary processes, including some ancillary work with graphic organizers, she also hinted at the reciprocal roles both she and Daniel played as teachers in this diverse classroom. “We help each other around here a lot. I help the gen. ed. kids, too.” According to Kelly, the native English-speaking students in the classroom, referred to here as the “gen. ed.” students, benefited from the same accommodations she implemented for her ESOL students. This was the reciprocal role she fulfilled: by helping her ESL students she also helped native English speakers. Kelly celebrated other accommodations being implemented in the science classroom, including guided notes and highlighted text. She also played a crucial role in facilitating formative assessments, a practice that was credited with raising students’ scores on summative exams.

There was ample evidence of a reciprocal role being fulfilled by the content teacher, as well. This occurred as Daniel assumed responsibilities for some of the accommodation procedures typically assigned to an ESL teacher. As this study began, he already required and referred to graphic organizers placed in the back of students’ binders, often using instructional
time to direct students to them. Used by the content teacher during instruction, students were
given time to record their responses to content material with prompts such as, “This reminds me
of…,” and, “Draw a picture…” Daniel also started to reference the word wall a little more. It
became more of an active part of the class. This also prompted him to use the vocabulary when
he was speaking, rather than opting for academic language below grade-level. These practices, in
turn, led him to ask students to speak using the same terms. According to these reflections, the
classroom environment already seemed to be supportive of students’ development in all four
domains of language: speaking, listening, reading, and writing. Academic literacy was modelled
and practiced by both teachers and students. Students were provided with accommodations and
support material that aided in their comprehension of difficult content material. Furthermore,
regular formative assessments were conducted in order to better understand student progress and
employ appropriate intervention strategies that could positively influence performance on
summative assessments. Already, this team reported that ELLs seemed more focused than their
native English-speaking peers. They claimed that off-task behavior improved because of their
co-teaching efforts while acknowledging that improvement was still needed. The early successes
provided early clues that they would be able to overcome the challenges posed by lacking
prerequisite conditions. Evidence of these early claims did appear in classroom observations.

Team Six research question three: Classroom instruction. During shared

instructional time, teachers and students engaged in at least two types of learning activities.
According to Ellis’s review of a cognitive approach to Second Language Acquisition, language
learning occurred because of a mental “process” or as the result of the “strategies” associated
with that activity (Ellis, 1994, p. 295). In this cognitive vein, Ellis summarizes the differences
between procedural and declarative knowledge as it relates to second language acquisition. For
the purpose of this analysis, the terms process and strategies will be used to describe two categories of activities in Kelly’s and Daniel’s ESL Science classroom. Process activities were tasks assigned to students for learning preparation, including organizational tasks. Metacognitive practices assisted students in learning; these practices were consciously used during tasks that facilitated strategies knowledge. These strategies activities, then, were tasks that required students to investigate, practice, and use new knowledge and skills. In Kelly and Daniel’s ESL Science classroom, students’ were required to display their procedural knowledge on several occasions throughout each lesson. At the beginning of each classroom observation, nearly all students displayed their knowledge of these procedural expectations as they prepared for their engagement in the day’s classroom activities. Later, activities that required students to display procedural knowledge included replies to teachers’ formative assessment prompts and the review of learning goals, objectives, and performance at the end of the class.

During the first classroom observation, students were engaged at the beginning of the class in a focus activity that provided formative assessment data to the teachers. They were given three minutes to perform a process-oriented task wherein they created materials for the subsequent learning task. Then, they independently listed key concepts and terms related to the content material; in this instance, students were asked to recall the steps in the scientific method. In terms of the process versus strategies learning activities, the formative assessment wherein student list key concepts is considered a strategies activity because it required students to practice and review new content-based skills. The creation of materials was a process-oriented task, because it did not require the use of new content knowledge. Each of the remaining classroom observations that occurred in Kelly and Daniel’s classroom included these same focus activities.
In two of these four classroom observations, the focus activity required a process task prior to participation in a strategies task. In the first and second observation, students were provided three minutes to create materials that would help them organize information in subsequent learning activities. In the third and fourth observation, however, students immediately began strategies work at the beginning of class, to write a reflective journal and to complete a formal paper-based assessment kept in their personal binders independently. Formative assessment results, therefore, were made available to teachers in three of these four focus activities; in the instance in which it was not conducted during the initial focus activity, it occurred immediately following in a whole group discussion. These four formative assessments, occurring at the beginning of each of the observed classes respectively, took the form of a (1) list of key concepts identifying steps in the scientific method, (2) a reflection journal, (3) a whole group survey conducted with a thumbs up/thumbs down activity, and (4) responses to a paper-based assessment consisting of reading comprehension questions. Incidentally, at least one formative assessment was conducted during closure activities when students completed a true/false quiz at the end of the first classroom observation.

In addition to the focus activities of the first observed lesson, where students created materials and listed key concepts in a formative assessment, they also listened to instructions provided by the teacher. They watched and listened to a film on the scientific method. They worked collaboratively to write a hypothesis and to design an experiment with small groups. After each of these small group collaborations, they reported their work to the whole group. During closure activities, they completed another formative assessment, this time in the form of a true or false assessment.
The focus activity during the second classroom observation also required students to complete a process oriented task and a formative assessment. For the process-oriented task, the teacher checked students’ planners where they were expected to organize class assignments and grades; they were also given three minutes to create materials, this time it was a “Review and Comment” sheet, which was then used throughout the class’s subsequent learning activities. In order to link the day’s content material to prior learning and to build background knowledge, formative assessment data was gleaned from a whole group discussion. Students participated in a thumbs-up/thumbs-down activity in order to show their own agreement or disagreement with content related concepts. This thumb-up/thumbs-down formative assessment occurred twice during this observation, once at the beginning of class and again later in the class in order to check reading comprehension. In addition to these initial classroom activities, students also read academic text with the whole group, evaluated and discussed content material with small groups, wrote notes in the graphic organizer, watched and listened to a film, and listened to modified language provided by the teacher in order to simplify material presented in the film;

In the final two classroom observations, teachers and students participated in an increasing range of activities. During the third classroom observation, students began with a process activity and a formative assessment that was collected via a three-minute independently written reflection journal. In addition to these initial activities, students also participated in a whole group discussion of their independent work. They read learning objectives, viewed models, and listened to instructions provided by the teachers. Students gathered materials for the day’s learning task and then completed a series of small-group assignments which required students to match key words with definitions, identify variables in an experimental design, and write conclusions to a given study, respectively. Students also participated in transitions before
each small group assignment and again before they listened to a review of the day’s learning objectives in the closure to class.

In addition to an increase in the quantity of activities occurring in the final classroom observation, there was an increase in interactive activities that provided ESL students with more opportunities to respond and produce language. Students (1) read learning objectives and materials needed for the current class, they independently (2) wrote a hypothesis, (3) discussed content material with small groups, (4) presented conclusions in whole group discussions, (5) observed models and (6) listened to instructions provided by the teacher, (7) investigated topics related to content material, (8) participated in transitions between learning activities, and (9) evaluated the work of peers. Some of these activities occurred more than once.

Students read learning objectives twice, once at the beginning of class and once at the end of class. They participated in small group discussions two times, once to share the written hypothesis completed during the focus activity and again during closure to present conclusions to the investigative lab. Whole group discussions occurred three times: once to share collaborative work completed during the turn and talk task, once for the celebration showcase where one good sample of student work was evaluated, and then once again during closure when students presented the collaborative work on their conclusions to the lab. Other activities that occurred more than once were teacher fronted directions and transitions. Teacher fronted directions occurred four times before each of the two small group tasks and before each of the three whole group discussions. Since the class was already structured so that small groups were sitting together at all times, transitions only occurred twice, as students began their investigative lab and as they returned to their small groups to discuss conclusions to the lab.
A comprehensive look at the learning activities taking place in these classroom observations provides an insight into the amount of meaningful, academic-oriented interaction occurring for these middle school English Language Learners. There were 40 activities occurring throughout these four classroom observations, with nine activities occurring during the first observation, ten activities in the second observation, twelve activities in the third observation, and nine activities occurring in the fourth observation. Activities that were repeated were counted separately for each time they occurred during the observation, so that multiple transitions were counted more than once, as well as multiple formative assessments. Of these 40 activities identified during the four classroom observations, thirteen facilitated interaction with peers. These interactive activities included collaborative work in small groups, when students were expected to write a hypothesis and design an experiment in the first observation, and when they were expected to match key terms with definitions, identify variables in an experimental design, and write conclusions during the third observation. Besides for these five activities requiring interaction, students also reported the results of small-group collaborations to the whole group twice during the first observation and once again during the fourth observation. They discussed academic reading material and subsequently wrote in graphic organizers during small group Turn and Talk activities. During an interactive lab, they investigated topics related to content material in the fourth observation; they evaluated the work of their peers during a whole group discussion; and they participated in a whole group formative assessment via the thumbs-up/thumbs down activity. While these thumbs-up/thumbs-down formative assessments required independent responses to the teachers’ prompts, they also provided an opportunity for students to check their own understanding with the understanding of their peers, and so this was considered an interactive activity, albeit on a limited basis.
Team Six goal: Articulation of ideas and vocabulary acquisition in instructional practice. Each class was structured with a routine that was designed to keep all students engaged in learning activities throughout the entire class. All students entered the classroom at the same time, since they were lined up in the hallway waiting for the teacher to admit them to class. As they entered, students saw a timer on the board, along with a list of necessary materials, learning objectives, and keywords for the day. The inclusion of keywords in this routine focus activity was the first indication that the sixth-grade team placed significant priority on their self-identified objective to improve vocabulary acquisition and students’ articulation of ideas. It also provided additional opportunities for teachers to reference vocabulary terms in other phases of the instructional process. For instance, the teacher directed students’ attention to the keyword list when he stopped a video to clarify its content. Videos were often a source of confusion for English Language Learners since the rate of speech was rarely modified and since the speech was rarely accompanied by text. In this instance, the content teacher used vocabulary terms as accompanying text to reference throughout a video presentation. This was remarkable in no small part because the content teacher was now modifying instructional materials to provide comprehensible input. Typical roles were amended from the outset by this team.

The priority to focus on vocabulary acquisition was evident in specific learning tasks assigned during the class and there was evidence to suggest that participation in co-teaching professional development training allowed these tasks to be structured in a meaningful way for student learning. During this team’s most notable attempt to strengthen its station teaching design, stations were explicitly devoted to supporting students’ vocabulary acquisition.

In addition to the dyad’s focus on receptive vocabulary skills, there was also observable learning tasks devoted to what the team referred to as “articulation of ideas” in their original self-
identified goals. These were opportunities for students to display productive language skills and practice language output. Though this team did not articulate explicit language objectives for planning or instructional purposes, they did provide regular instances, at least once in each observation, in which students were required to practice output. For example, in the aforementioned film on the scientific method, where the content teacher provided textual vocabulary support for ELLs, small groups were asked to articulate their ideas on two separate occasions.

First, the content teacher stopped the video after five minutes, following the video’s discussion of a hypothesis. Small groups were asked to hypothesize about a given problem presented in the film. It is important to note for future discussion that the ESL teacher translated directions to her students at this point, despite a variety of research-based strategies and tools, such as cloze sentences, that were available for her to use in support of her students. Later in the film, the content teacher again stopped the video and assigned another small group-learning task, wherein small groups attempted to set up an experimental design that tested a given hypothesis. The ESL teacher then provided support to students as she moved between two groups to provide translations and explanations. Then, small groups shared their different experimental designs with the rest of the class. This elaborate plan for students to interact with peers and apply knowledge presented in a film to a learning task that requires higher order thinking skills was evidence that the content teacher was capable of modifying instruction for English Language Learners.

Students were required to use listening and speaking skills to accomplish a content objective; therefore, the teacher seemed to design instruction while considering language objectives, but he did not post, articulate, or review these objectives alongside the content
objectives. Moreover, the ESOL teacher did not enhance her partner’s instructional design by creating, posting, articulating, or reviewing language objectives. In a problem-based lesson described below, students were required to display their competence with language objectives, but those objectives were never posted or made explicit for the students. Kelly assumed parity in the classroom by initiating the lesson with the reading of content objectives, but again there was no reference to language objectives. A similar result was found in the seventh-grade team’s instructional practice and will be explored further in the discussion section.

There were other instances in which the content teacher repeatedly displayed an ability to modify his instruction for English Language Learners, though it is uncertain whether these modifications resulted from his desire to support this particular population of student or if they were the result of other training and experience with cooperative learning strategies. For instance, research in instructional strategies for English Language Learners supported frequent interaction with more proficient peers and it suggested that students be provided an opportunity to discuss input with peers at least every ten minutes, a process often referred to as “chunk and chew”. Before the film began, students were provided with two opportunities to “turn and talk” about content with peers. By using “turn and talk” as a learning strategies, Daniel incorporated interaction into a lesson that could very easily only require receptive language skills. Instead of merely requiring students to view the film, he stopped the film once to clarify key concepts and content specific vocabulary terms; he then stopped the film two additional times for students to apply their knowledge in a task that required higher order thinking skills.

During a problem-based lesson, students worked in small groups to investigate a crime scene by collecting artifacts and studying them under a microscope. During this activity, Level 1 ELLs participated kinesthetically by collecting fibers from a mock crime scene and bringing
them to study with an assigned small group. With the small group, Pablo, the newest arrival to a US school, was observed discussing the academic task with members of his group, writing descriptions to accompany a drawing of what his group observed in the microscope, and struggling with his classmates to answer “why” questions that require higher order thinking skills. This lesson proved to be highly engaging from the beginning to the end of the class, where even Level 1 ELLs were using language to accomplish content objectives.

Kelly’s expertise throughout this PBL lesson was her ability to assume control of the class from the beginning. She read the content objectives and it continued throughout guided practice activities when she monitored group progress. For instance, Kelly was able to conduct some of the same small group conferences that Daniel conducted. In this respect, the PBL lesson possessed characteristics of parallel teaching, though this model was not explicitly planned in advance. Still, both teachers asked questions of small groups that helped provoke students’ analyses.

Table 4:

Evidence of Goals for the Sixth-Grade Team

<table>
<thead>
<tr>
<th>Do co-teaching teams engaged in action research activities identify instructional goals as a result of their collaborative participation in structured educational practices?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary acquisition and articulation of ideas:</td>
</tr>
<tr>
<td>Instances observed during instructional practice.</td>
</tr>
<tr>
<td>Key words displayed in routine focus activities.</td>
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<tr>
<td>Directing’ attention to a keyword list when stopping to clarify presentation of content material.</td>
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<tr>
<td>Chunk and Chew / Turn and Talk Teaching stations for vocabulary study</td>
</tr>
<tr>
<td>Small-group hypotheses during PBL and in preparation for science labs</td>
</tr>
<tr>
<td>Small-group experimental designs written and presented orally.</td>
</tr>
<tr>
<td>PBL Tasks in small groups:</td>
</tr>
<tr>
<td>· Spoken descriptions</td>
</tr>
<tr>
<td>· Written descriptions to accompany drawings of scientific observations</td>
</tr>
<tr>
<td>· Conference with teacher to review learning task</td>
</tr>
</tbody>
</table>

**Note:** Instances in which the sixth-grade team addressed or referenced their goal to improve Students’ Articulation of Ideas and Vocabulary Acquisition during classroom instruction and during reflection and planning meetings.

**Team Six objectives: Learning activities, interaction, and grouping.** During the first classroom observation, there were nine English Language Learners in attendance alongside 18 native-speaking classmates. Seating was designed for small collaborative groups, with seven
different tables, accommodating approximately four students at each table. Of these seven tables, two had four native English speakers (NES) working as a group, respectively, meaning two of seven groups did not contain any English Language Learners. Conversely, there were also two groups that consisted of three English Language Learners: in one of these groups, there was also one NES, but in the other group, there was not any NES working alongside the three ESL students at that table. In addition to these two exclusively native English speaking groups and two predominantly non-native English speaking (NNS) groups, there were two groups that consisted of one ESL student and three NES. The newest arrival to the class and to a US school sat at a desk adjacent to the exclusively NNS group, both situated at the back of the room by the door. Therefore, there is an uneven distribution of English Language Learners situated throughout this classroom.

Since the teachers identified the development of more meaningful interaction and careful grouping as a goal for their collaborative experience together and since the groupings were “uneven” it is helpful to consider the following questions regarding their grouping configurations: (1) Was this uneven distribution of NNS and NES intentionally designed by the teachers? (2) If the groups were intentionally designed this way, what were the reasons for the teachers’ decisions? (3) What are the unique characteristics of these different types of groups? Specifically, how is an ELLs learning experience different in groups that are predominantly NES versus those that are predominantly NNS.

In a debriefing conversation immediately following this first observation, Kelly provided some explanation for their decision to create two predominantly NNS groups and for the placement of both of these groups at the back of the room. She viewed this configuration as having a strategic benefit: it allowed her to move easily to the students who require the greatest
amount of support and it allowed her to provide this support in a manner that saved her time.

According to her, if the students were placed more evenly throughout the classroom, she might have to repeat her translations and explanations or she might need to repeatedly provide the same directions for the use of supplementary materials. Their decisions about grouping, therefore, are based primarily on efficiency and the use of resources.

Table 5

_Evidence of Team Goal Observed in Practice_

| First Observation | • Independent focus activities  
|                  |   o Created materials for learning tasks  
|                  |   o Responded to formative assessment prompt (listed key concepts)  
|                  | • Listened to instructions provided by the teacher  
|                  | • Read learning objectives  
|                  | • Watched a film  
|                  | • Worked collaboratively in small groups  
|                  |   o (1) wrote a hypothesis  
|                  |   o (2) designed an experiment  
|                  | • Reported to whole group  
|                  | • Responded to formative assessment prompt (true/false quiz)  

<table>
<thead>
<tr>
<th>Observation</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second</td>
<td>• Organized class assignments and grades in student planner</td>
</tr>
<tr>
<td></td>
<td>• Created materials</td>
</tr>
<tr>
<td></td>
<td>• Responded to formative assessment in whole group activity (thumbs up/thumbs down)</td>
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<tr>
<td></td>
<td>• Read academic text with the whole group</td>
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<tr>
<td></td>
<td>• Evaluated and discussed content material with small groups (Turn and Talk)</td>
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<tr>
<td></td>
<td>• Wrote notes in a graphic organizer</td>
</tr>
<tr>
<td></td>
<td>• Listened to instructions provided by the teacher</td>
</tr>
<tr>
<td></td>
<td>• Watched and listened to a film</td>
</tr>
<tr>
<td></td>
<td>• Listened to modified language provided by teacher to clarify the film’s content</td>
</tr>
<tr>
<td>Third</td>
<td>• Independently reflection journals</td>
</tr>
<tr>
<td></td>
<td>• Read learning objectives</td>
</tr>
<tr>
<td></td>
<td>• Listened to instructions provided by the teacher</td>
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<tr>
<td></td>
<td>• Whole group instruction</td>
</tr>
<tr>
<td></td>
<td>• Small group instruction: ESOL teacher</td>
</tr>
<tr>
<td></td>
<td>• approached NES students to explain expectations</td>
</tr>
<tr>
<td></td>
<td>• for interaction and modelling with English</td>
</tr>
<tr>
<td></td>
<td>• Language Learners</td>
</tr>
<tr>
<td></td>
<td>• Viewed models provided by the teacher</td>
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</tbody>
</table>
| Fourth Observation | • Gathered materials  
|                   | • Small-group assignments  
|                   |   o Matched key words with definitions  
|                   |   o Identified variables in an experimental design  
|                   |   o Wrote conclusions to a given study  
|                   | • Moved during transitions before each small group assignment  
|                   | • Listened to review of the day’s learning objectives  
|                   | • Read learning objectives and materials  
|                   | • Wrote a hypothesis  
|                   | • Discussed content material with small groups  
|                   | • Presented conclusions in whole group discussions  
|                   | • Observed models  
|                   | • Listened to instructions  
|                   | • Investigated topics related to content material  
|                   | • Participated in transitions  
|                   | • Evaluated the work of peers  

*Note:* Evidence that teachers applied goals to their practice is recorded from four classroom observations. These observations occurred between the separate stages of reflection and planning in the action research cycle.

The sixth-grade team’s proclivity toward designing multiple activities and tasks in each lesson proved to have an engaging effect on students, an effect that was influenced by the priority they placed on efficiency in their grouping strategies. Students were rarely off-task and
when they were, it never persisted for more than a few minutes. Instead, their attention was consistently redirected, either by Daniel’s transition to new activities or by Kelly’s provision of both academic and behavioral accommodations.

Team Six conclusion. Initial predictions about the sixth-grade team’s level of success in their co-teaching effort were not positive. The content teacher possessed the least amount of teaching experience in comparison to any other teacher participant in the study. The ESOL teacher repeatedly questioned the validity of co-teaching as an instructional approach for her students and she regularly expressed concern about the administration’s commitment to it. A lack of administrative support was evident in her distrust of their motives and perhaps more glaringly, in the administration’s failure to provide common planning time for members of this team. These predictions proved false, however, because other assets to the team’s partnership provided adequate tools for overcoming initial concerns.

Daniel’s inexperience was compensated by the quality of his teacher training and background experiences in education. He was familiar with action research methodology, and so he was able to display a significant commitment to the professional development activities that drove much of this research project. In fact, the professional development activities proved to be the factor that compensated for each of these aforementioned threats to Team Strong’s co-teaching efforts. This professional development design required intense commitment from participants, since they were required to attend three whole group preparation and training activities, as well as regular meetings to complete multiple iterations of the action research cycle. The embedded support of a professional development facilitator who also served as an action researcher did much to repair the distrust expressed by Kelly. Most importantly, though, it helped guide teachers through a process of identifying instructional goals of this particular set of
learners, of challenging traditional teaching roles in the classroom via planning attempts at new co-teaching models, and of enacting plans with students in order to improve engagement and performance. The sixth-grade team ultimately found success in their co-teaching efforts, because their partnership existed within a complex environment of support, where their own assets as educators could be accessed for instructional planning and practice.

**Seventh Grade Team**

Just one other team in this study reiterated the value of this support, since the seventh-grade team also exhibited a similar level of success in their co-taught CBLL classroom. This team operated within a different context of prerequisite conditions, however. As a result, the teachers in this team experienced a greater degree of stress on their efforts, which ultimately affected the manner in which they enacted instructional plans and the ways in which students reacted with classroom engagement and performance.

**Prerequisite conditions: Assets.** At the sixth grade level, Michelle and Robert formed a co-teaching dyad that initially displayed the most promise among the three teams engaged in this project. This team met nearly all prerequisite conditions, but those that were lacking threatened the team’s progress until the close of the study. Compared to the two other teams participating in the study, Michelle and Robert met most regularly, provided rich reflections about both students’ and teachers’ classroom performance, and planned according to explicitly identified goals. They also attempted new models of co-teaching, choosing instructional strategies based on explicitly stated objectives for specific ELL students in the classroom. These achievements were made possible in part by indicators of prerequisite conditions that were unlike those experienced by the other team.
The commitment demonstrated by the seventh grade team was made possible largely because the administration protected common planning time made available to them during the instructional day. This luxury was also afforded to the eighth grade team, but it was not possible for the sixth-grade team, who overcame this deficit by assuming pre-defined roles and communicating regularly during lunch, between classes, and through separate work with this researcher who also acted as a professional development facilitator. Throughout their reflection and planning meetings, Michelle and Robert were perhaps the most specific with identifying goals for their work together. They exhibited the most commitment to the processes of action research, participating fully in co-reflection, co-planning, and co-instruction. Both members of the team were highly qualified in their content. Robert had prior experience teaching this particular population, as he possessed over 10 years of experience teaching Spanish and English as a Second Language in the building. Michelle was also highly qualified with experience teaching this particular population of students. She had seven years of teaching experience in science at the lower grade levels in the district where she taught some of these same students at an elementary school in previous years.

This project coincided with Michelle’s first year in the middle school building. She faced a variety of transitions simultaneously, and so her success with this co-teaching effort on one level and with her teaching as a whole, on another level, turned out to be threatened. The assets described above are countered by challenges with administrative support for this teaching team. These challenges, in fact, threatened them throughout the process, and indeed prevented the continuation of their work together in future years.

Prerequisite conditions: challenges. Michelle faced challenges with parity throughout her first and only year at this middle school. The parity discussed in the professional literature on
co-teaching practice focuses primarily on the working relationship between the content teacher and the ESOL teacher, advocating a partnership where the ESOL teacher works with equal accountability for instructional design. This discussion often cites a professional relationship that is not based on parity, wherein an intervention specialist or an ESOL teacher is treated as an aide and afforded few opportunities to lead instruction. For Michelle, however, the lack of parity occurred in a different context, but with similar consequences. It was different, because she was a content teacher rather than an ESOL teacher; also, the unequal roles were between her and other content teachers, and between her and an administrator. The consequences were similar, because the lack of parity threatened her ability to co-plan with the ESOL teacher.

Michelle frequently voiced concerns about her inability to fit into or influence her team of science teachers in this new environment; she feared deviating from the pacing guides adopted by the science team and felt uncomfortable addressing her concerns with that group. This troubled relationship with the content area team was echoed in her relationship with the school administrator responsible for her evaluation. Although Michelle and Robert met more regularly than the other two dyads and although they provided rich reflections about both students’ and teachers’ classroom performance, and planned according to explicitly identified goals, Michelle often qualified her instructional plans with statements of concern about reactions from the science team and her administrator. While administrative support was a prerequisite condition that overcame the effects of conditions that were lacking with Kelly and Daniel, it was the lack of administrative support that would consistently threaten progress for Michelle and Robert. Ironically, the level and form of administrative support was not consistent across all three participating teams, despite the fact that they operated in the same building. Despite this threat, Michelle contributed, in parity, to instructional plans and worked diligently to execute her plans.
in the classroom. In most cases, the result of this perseverance in reflection, planning, and action were rewarded with improvements toward the self-identified goals captured in their fishbone diagram during initial professional development activities.

Robert, like Michelle, shared distrust of the administration, distrust that was also evident in Kelly’s practice on the sixth-grade team. He echoed Kelly’s point that the administration seems to choose new initiatives so often that they resemble fads. Therefore, he was skeptical that their commitment to co-teaching would continue. Like Kelly, he agreed to participate fully and to the best of his ability, but underlying this commitment were suspicions about how long it would be necessary. He believed in the value of co-teaching, but wasn’t confident that it would last. On the other hand, he also noted instructional approaches directed by the administration that he didn’t necessarily believe in. The administration was currently directing the program to support looping, a practice that Robert objected to, where intervention specialists and ESOL teachers kept the same students on their caseload throughout the students’ time at the school; students were not provided with a new ESL teacher in each grade. Instead, they had the same ESOL teacher for the entire sixth, seventh, and eighth grade experience. Robert claimed that his students would benefit from learning with other TESOL professionals, too. With looping, they would spend three years with only one ESOL teacher assisting them in all of their content classes. The administration knew his objections, but did not support them. To him, this added to his distrust of administration.

Despite the lack of some prerequisite conditions, they displayed significant commitment to the co-teaching initiative. They participated fully in preparation and training activities. They identified goals for student performance and achievement. They attempted new co-teaching models and planned for instruction with the explicitly stated needs of specific ELLs in mind.
Challenges with student engagement and performance often prompted the teachers to revert to more familiar roles and classroom management strategies, rather than consistently follow those plans to fruition. There were, however, numerous instances in which they found improvement in student performance, because they remained committed to an unfamiliar approach or co-teaching model.

**Preparation and training.** During the professional development and planning phase of this project, Michelle and Robert identified problems that they wished to address in their co-teaching endeavors. Fishbone diagrams were used as a tool to capture their primary goals and challenges to meet. Michelle and Robert listed motivation as their goal in co-teaching middle school ELLs in a science classroom. They expected challenges related to training and support in instructional strategies, including the SIOP Model and Cook and Friend’s Models of Co-Teaching. They also noted concerns with access to appropriate materials and technology; additionally, they were interested in fostering a respectful cultural climate that valued community.
Figure 4. Team threatened fishbone diagram. Michelle and Robert used a fishbone diagram to identify “Motivation to Learn” as a goal for their co-teaching efforts. They noted their own degree of knowledge and experience about Models of Co-Teaching, Instructional Strategies, the SIOP Model, and Resources, Materials, and Technology as challenges to address in order to achieve their self-identified goal.

In early January, initial professional development activities involving all three participant teams concluded, allowing individual teams to begin a more intimate reflection, planning, and action cycle with the researcher. In their first reflection and planning meeting, Robert and Michelle identified specific goals that echoed those outlined in the fishbone diagram completed during the professional development days. Robert immediately expressed his desire to focus on careful planning for implementing different co-teaching models. He asked that classroom observations focus on the teacher’s use of resources, such as their attention, energy, and instructional materials. The original fishbone listed co-teaching models and other instructional strategies, access to resources, and motivation as key goals or challenges to address in their co-teaching efforts. Adhering to these originally stated goals, he chose to focus initial planning with his partner and with the researcher on co-teaching models and resources, so that their instruction would effectively engage students in content and language learning.

The close relationship between motivation and engagement is addressed in the literature review, but there are unique implications for the work of this particular co-teaching team. Since engagement is used as a means to measure motivation, Robert pointedly expressed his concern for using the term engagement. He strategically opted to focus on motivation, whether it was a matter of semantics or not. This strategic focus reveals the distrust of administration experienced by both Robert and Michelle. Robert explained that he preferred to focus on motivation because motivation could not be as easily measured as engagement; when administrators observed their
classroom they could more easily refer to disengaged behaviors as evidence of problematic instructional practice. Robert claims that by focusing on motivation rather than engagement, they protect themselves from poor evaluations conducted by the administration. Though Robert never made any explicit link between this point and any practices occurring in their own classroom, and though there is no reason to believe that he was referencing any concerns about his or Michelle’s teaching, there was more evidence of disengaged behaviors in their classroom than in the other classes observed in this study. Michelle consistently struggled with classroom management, presumably due to her inexperience with middle school aged students.

In the following sections, references to each of the self-identified goals will be discussed, with a parallel report of how these plans were manifested in action or observed during instructional practice. The following sections will therefore mirror the three goals and challenges identified by Michelle and Robert in their Fishbone diagram: Models of Co-Teaching, Resources and Materials, Motivation.

**Team Seven research question one: Teacher goals and objectives.** The data from this research study was analyzed to determine what goals and objectives teachers choose for their instructional practice when they are afforded the benefits of ongoing professional development in co-teaching. During initial professional development meetings, each team identified a major goal they sought to solve with their co-teaching experience. The sixth and seventh grade teams both identified “motivation” as their goal, while the eighth grade team cited vocabulary acquisition as a target. Throughout ensuing cycles of action research, other goals, many of them more short-term benchmark goals, were identified in reflection and planning meetings. The most prevalent goals related to individual student performance, practice with other co-teaching models, and requests for additional training in SIOP.
Since co-planning and reflection meetings are conducted according the structure of the Collaborative Assessment Log, Michelle and Robert begin their discussion with celebrations of their current progress with co-teaching efforts. Because they explicitly requested more ongoing support in their efforts to implement the co-teaching models studied in the professional development training, they used the time before their first planning meeting to make progress with some prerequisite conditions. After initial preparation and training activities but before they met with the facilitator, they focused on creating a culture of parity in the classroom. They claimed to have already made concerted efforts to build trust between the teachers and between the teachers and students. Robert and Michelle already began allowing Robert to present content material to the whole class rather than focusing primarily on providing support to the English Language Learners. Because of his changing role, they noted a brief reluctance or confusion on the part of the students, who did not understand why Michelle was not the primary source of content instruction. Still, Michelle and Robert celebrated the students’ quick transition to accepting this change in the teachers’ roles. Robert stated that students now understand that he can address content issues. He added, “They now realize that I have something valuable to say, as well.”

In addition to these changing roles between the teachers, there were changing roles between the teachers and the students. The students who posed the greatest challenges to Michelle and Robert were responding positively to the co-teaching relationship. Because of the looping practice espoused by Robert, where he was able to keep his ESOL students on his caseload for three years, rather than only for one, his relationship with this particularly challenging student was beginning to suffer. He is the first person to describe the positive effect co-teaching had on his struggles with this particular student. In this first reflection and planning
meeting, Robert explained that with Michelle’s presence, he is able to connect to this student better.

...co-teaching helps ‘bridge the gap’ between a student and teacher who might otherwise not connect easily. Because teachers interact with students differently, one student may connect with another teacher more easily, but if there’s trust between teachers, then the students are more likely to trust both of the teachers more easily.

The co-teaching relationship between Michelle and Robert was in its beginning stages when they noticed positive effects on student motivation. At this point, they had not yet attempted a co-teaching model from the professional development training, but they had begun working on cultivating a culture of parity and trust. It is because of this positive effect on the engagement of even their most challenging student, that Robert and Michelle believe they will be able to affect motivation.

**Team Seven: Initial challenges to goals and objectives.** Though Michelle and Robert identified an overarching goal they wished to achieve because of their co-teaching efforts, as well as some challenges they expected to encounter, they articulated several more specific challenges in this first reflection and planning meeting. In addition to their desire to affect motivation, they expressed a concern for students’ performance on assessments. As teachers working closely with these struggling learners on a daily basis, they saw progress in performance on independent practice activities and formative assessments, but this progress too often failed to affect performance on formal assessments. This was a concern in relation to content material, as well as for English language development. Again, Michelle and Robert viewed this challenge to be the result of students’ lack of motivation to do well in science. Their discussion indicated a belief that effective co-teaching would lead to increased motivation, which would then lead to
better performance on formal assessments of content material, as well as English language development.

**Parity.** The final challenge is one that was echoed numerous times throughout their reflection and planning meetings and one that was reported above in relation to the prerequisite conditions that were lacking for this threatened team. The parity between Michelle and her colleagues on her content team was a direct threat to the efforts she was making with Robert in the content-based ESOL classroom. The first instance in which Robert and Michelle spoke of this threat was in their first planning meeting, where they expressed concern for their ability to deviate from a pacing guide that did not address the needs of English Language Learners. In Michelle’s words, she felt “scripted” and “constricted”. Robert explained that over the course of the coming weeks, the pacing guide requires students to read large portions of the textbook, which needs intense modifications to be comprehensible to most of the students in their classroom. Because formal assessments are based on their reading of the text, they wish to build their co-teaching efforts around these reading requirements. They ultimately decided on a routine where students will read independently and participate in whole group discussions during focus activities, before the teachers engage in a new co-teaching model.

In planning discussions, the content teacher listed a variety of activities that could be used to teach content materials. It was the ESL teacher who made the initial proposals for setting up those activities in stations. In this first plan for the implementation of a co-teaching model, students were to be divided into three groups of approximately eight members. Each group would remain at a station for one class period, alternating to the next station in the following class periods. Two of these stations would be two different hands-on lab experiments while the third station would be a scripted activity from material published by Bill Nye. The content
teacher displayed directions for these three activities and the ESL teacher studied them to determine where his expertise would fit into these three stations. There was a negotiation of roles between the two teachers with two different sets of knowledge and expertise. This negotiation of roles between both members of each participant team is of primary concern in this study and will be examined in more detail in the conclusion.

To conclude their initial planning meeting prior to their first observation in the action phase of the research cycle, Michelle and Robert designed a plan for affecting motivation in the classroom. They created a list of three Hispanic girls whose motivation they wished to improved. They also compiled a list of six other students in the class who would be good leaders who might influence the motivation of the three girls in the first list. These six potential leaders included two native English speaking African American boys, three African American girls, and two Hispanic girls.

**Team Seven research question three: Instructional practice.** Participation in this research study was grounded in their professional development experience on co-teaching. This included their study of Cook and Friend’s six co-teaching models and her emphasis on parity. In the first classroom observation, Michelle and Robert immediately mirrored instructional practices recommended in professional literature about co-teaching. The ESOL teacher fronted the instruction from the start of their participation in this project. At the start of class, the content teacher led students into the room so that the ESOL teacher could begin class by reading learning objectives and questioning the whole group. Meanwhile, Michelle set up labs for subsequent learning activities. By placing the facilitator role in the hands of the ESOL teacher, this team emphasized the value they wished to place on parity in their classroom. Robert led instruction for
the whole group, demanding students’ engagement and creating a presence that instilled respect for his role as co-teacher.

In this first attempt to prepare for the co-teaching models studied in the professional development experience, Michelle and Robert agreed to attempt a Station Teaching Model. During the next classroom observation one week later, however, they adopted a Team Teaching model. The original plans were abandoned at the last minute. Still, they continued to share responsibility for whole group instruction, as well as for support during small group learning tasks. While this model could provide the dyad with tools for addressing their primary goal to improve motivation among their students, this decision to change models after the original planning meeting turned out to have deleterious effects.

After Robert led focus activities, Michelle assumed responsibility for delivering instructions and providing models for the day’s learning task. By assuming these equal roles, each teacher took a turn supporting individual students, oftentimes redirecting attention so that students were able to complete the assignment and remain engaged. These alternating roles, where each teacher took a turn directing whole group activities and supporting individual students in their assigned task, continued throughout the duration of class, even when students were working collaboratively in small groups. Despite the advantage that team teaching provided these teachers in their ability to work with students individually or in small groups, engagement and motivation remained an overwhelming task for them.

Each group contained elements of off-task and even resistant behaviors that indicated a lack of motivation to participate and learn in this science classroom. These behaviors increased in number and in volume throughout the class, ultimately leading to an impossible situation for the teachers, who moved quickly between groups to redirect students’ attention. They were not
able to provide struggling students with enough differentiated support, because even those students who began the task highly engaged, working to support peers, finished the class with the same minimal level of engagement as all of their peers. The class closed with a reflection, led by Michelle, in which students were asked to consider their task and their own contribution to the completion of the task. This was a teacher-fronted reflection that elicited little contributions from individual students, and so the question remained for this team after their first attempt at co-teaching: how can co-teaching increase students’ motivation and engagement in the science classroom?

During the second classroom observation, Michelle and Robert still did not attempt station teaching, as they originally planned, but they did attempt a different co-teaching model. This new direction was chosen in order to allow them to provide more differentiated support to individuals and small groups, while eliminating the need for them to frantically move between small groups of students in order to constantly redirect attention. This revised plan provided them with more success in their goal to improve motivation, but there were still persistent, off-task behaviors. In this second attempt to use research-based co-teaching models in order to improve student motivation, Michelle and Robert designed a parallel teaching lesson, but once again, they abandoned their plans and reverted to familiar roles and models of co-teaching.

The Parallel Teaching Model did not take place until after the day’s focus activities, and so the teachers’ roles reverted to a typical one-teach/one-assist framework. In the first fifteen minutes of class, Melissa read directions to the class to get them started on the focus activity, she led a short discussion evaluating the work of one the ESOL students during this focus activity, she reviewed key terms and concepts related to the content material and learning task to be covered for the duration of the class, and she listed necessary materials for the students.
Meanwhile, Robert moved quietly around the room, supporting individual students. Within in this one-teach/one-assist framework, the same disengaged and resistant behaviors that plagued the classroom during the team’s first observation were also evident at the beginning of the second observation. As students entered the classroom, written directions were provided at the front of the classroom, requiring students to independently read a selection from the textbook and then write a short summary of what they read. Students were given approximately ten minutes to complete this task, before the whole group would evaluate the work of one of their peers. Within five minutes, however, three students had to be redirected. Each of these three students were also redirected throughout the first classroom observation. One of these students was permitted to sign out of class before the close of this fifteen-minute focus activity. These behaviors decreased in number and severity, though, as the teachers engaged in the Parallel Teaching Model for the duration of the class.

Michelle and Robert begin this activity by reading aloud the members of each of their assigned groups. Robert’s group of eleven students consisted predominantly of English Language Learners, while Michelle’s group of eleven students had only three ELLs. Although this grouping configuration, where the ESOL teacher is responsible for groups of larger numbers of ESOL students, is not supported by the professional literature, it does not inhibit their growth in affecting student motivation and engagement through the use of this particular co-teaching model for this particular lesson.

The initial transition time for these two parallel groups to meet in separate locations of the room was approximately five minutes, with Robert’s group taking more time to transition than Michelle’s group. Similarly, Robert’s transition time was notably louder. At seven minutes into the parallel teaching activity, both groups were at the same point in their lesson, focusing on
the same comprehension question, and all students were actively engaged in a small group
discussion, providing individual written responses to the discussion questions. The five
individual students who consistently required redirection during the first observation and during
the focus activities of this second observation, still required individualized attention from the
teacher, but in all but one case, the redirections did not overwhelm the teachers nor prohibit them
from meeting the needs of even the most engaged students, as was a concern by the end of the
first observation. One of these five students was removed from Michelle’s group by school
security because of defiant behaviors. He soon returned to class and joined Robert’s group. Three
of these students were quickly redirected in Robert’s group and maintained engaged behaviors
until the close of class. One student even helped lead a part of the small group discussion,
reading from the text, and responding correctly to teacher prompts. Incidentally, this student was
identified in the original reflection and planning meeting as a potential leader who could
positively impact the learning behaviors of peers if she was placed in the appropriate setting and
provided with the appropriate role.

This attempt at parallel teaching, therefore, required some adjustments by the teacher as
they were teaching. The noise level of two groups of at least ten students and one teacher
working simultaneously in one room was difficult to manage; after just nine minutes of parallel
teaching, Michelle moved her group into the hall. It was here that a second adjustment was made
as she asked security for the student removal when her most resistant student refused to engage
in the small group activity. Other adjustments were related to differentiated instruction, and
included the use of a manipulatives and increased opportunities to respond.

When the parallel groups transitioned again to a whole group setting for closure
activities, some previously disengaged students returned to exhibiting disengaged behaviors.
Michelle’s group return from the hall was noisy and chaotic, prompting her to require the group to make a second attempt at this transition. Robert then led the instruction, asking students to write a definition for their exit slip. This return to disengaged behaviors may indicate a crucial asset for teachers working in a Parallel Teaching Model: smaller group size allows teachers to more fully engage struggling students in learning activities. Once students reconvened in the whole group setting, two of the five disengaged students resumed disengaged behaviors, failing to complete this final closure assignment.

In the final classroom observation, Michelle and Robert adopted an Alternative Teaching Model that would continue to provide them with some of the same benefits of smaller group size they experienced as a result of their use of parallel teaching. Again, this model only began after some initial one-teach/one-assist focus activities. This focus activity also required independent reading, summarizing, and a whole group evaluation of a students’ work. The content teacher provided instruction as the ESOL teacher assisted various students around the room at different times, often redirecting attention and reengaging students who were off-task. In every case, the students who were redirected during this focus activity were the same students who needed redirection in the previously observed focus activities. Still, Robert’s role as an assistant during these initial learning activities reaped some benefits during the whole group discussion.

Without hesitation from either teachers, Robert begins the whole group discussion by posing a question related to content and one of the students who regularly required redirection is eager to provide a response. Though a one-teach/one-assist co-teaching model dominates the opening minutes of class, the ESOL teacher is comfortable leading discussion related to content and is able to elicit responses from ELLs he was just recently able to assist. This impromptu move to a Team Teaching Model was brief, but it displayed a culture of parity that supported
both the ESOL teacher and the ESOL student. In turn, it helped ease a transition to an
Alternative Teaching Model.

Michelle and Robert co-presented content objectives, language objectives, and key terms
for the day’s learning task. They seamlessly took turns reading these objectives and concepts and
explaining their meaning and importance before providing directions and models. According to
the design of this model and the plans developed by this team for its implementation, the ESOL
teacher would meet with small groups of students in order to provide enrichment and support. On
this particular day, groups of four students are chosen by the ESOL teacher to meet at the
Smartboard, where Robert facilitates internet games that require students to practice content
knowledge related to nutrition. At the same time, the rest of the class is working independently to
create a manipulative food pyramid. Small groups consist of both ESOL and native English
speakers. Individual students who typically require the most direct attention from teachers,
notably those who require redirection in previous observations, are placed in separate groups, so
it is possible to see their performance in each of these two respective tasks.

During these three classroom observations, five students were noted to have been off-task
more than three times during each class period. Each classroom observation was focused on a
different co-teaching plan developed by the teachers during reflection and planning meetings.
During these planning meetings, each of these five students were identified by the teachers for
improving their individual performance in learning activities. When alternative teaching was
implemented in this final classroom observation, every one of these five students were fully
engaged in the small group activity. A smaller number of these students, however, continued this
on-task performance once they returned to the whole group, independent practice assignment.

**Eighth Grade Team**
At the eighth grade level, little to no success was made with accomplishing the goals or tasks of the co-teaching partnership. This team participated fully in initial professional development activities that included all participant teams, but they limited their participation in the project once teams began to work on their own with classroom planning and instructional practice. After only two planning meetings and one intervening classroom observation, this team asked to terminate its participation in the project. The content teacher, Joseph, approached the topic during the final collaborative reflection meeting. In his view, he and Liliana were already addressing the needs of their students and further investment in the professional development activities would not be necessary. Liliana did not speak when he informed the team that he was not interested in completing the project. While the other two dyads completed at least three co-planning meetings and intervening classroom observations from the researcher, this team chose to participate in fewer than half of the amount of collaborative activities required of the other participants.

**Prerequisite conditions.** Certainly, this team exhibited a variety of strengths and possessed several prerequisite conditions when they began their participation in this study. Joseph had over 13 years of teaching experience. He knew the needs of this particular population of ELLs, because he worked with this repeatedly for several years. Administrators and fellow teachers have credited him as being particularly effective and interested in meeting the needs of his diverse group of students. He recognized by the administration as being a leader, and so the concerns about administrative support that were raised with Team Strong and Team Threatened did not exist with Team Indifferent.

His classroom practice supported these claims during baseline observations. Students were grouped heterogeneously when necessary, accommodations were provided, and SIOP
strategies were evident. His partner, Liliana, also had over five years of experience working directly with ELLs in this building. Her commitment to students and her ability to facilitate accommodations, interventions, and assessments proved beneficial to students and colleagues alike. As a native Spanish speaker from Puerto Rico, she easily gained respect from her multicultural students and their families, and in turn proved invaluable to teachers across the building. She was not, however, a licensed teacher. As an aide who found success facilitating academic tasks and bridging sociocultural distances between the school and home, the ESL department grew to rely on her to fulfill roles that are typically reserved for licensed teachers. This same respect and acceptance was also found among content teachers who regularly looked to her for help. Despite her success with facilitating academic interventions and the professional respect she seemed to demand universally, parity was not fully realized in her role as co-teacher with Joseph. This was a contributing factor in their failure to exhibit growth with their self-identified goals, in their limited progress in assuming new roles and attempting new co-teaching models, and it led to their limited participation in the project.

**Preparation and training.** During initial professional development activities, this team identified a primary goal they wished to accomplish in this action research project, as well as a list of challenges they expected to meet in their efforts to accomplish this goal. They named “Motivation” as the classroom construct they wished to affect the most as a teaching team. The challenges they listed fell into categories of sociocultural influences, academic support, and access to materials. Socioculturally, Joseph and Liliana recognized some of the same factors outlined by Michelle and Robert regarding the misalignment between home and school literacies, particularly in regards to parental expectations or parental understanding of school processes and expectations. More specifically, Joseph and Liliana stated that challenges with motivation can be
traced in part to a lack of emphasis on education in the home where there were few books, school materials, or models of literacy resembling those addressed in school; motivational concerns among ELLs were similarly attributed to different cultural values regarding the role of education.

**Team eight teacher goals and objectives.** Though Joseph and Liliana identified the same primary goal of motivation that Michelle and Robert identified, the challenges they expected to address were further removed from direct classroom instruction and presentation of content material. Whereas Michelle and Robert, at the seventh grade level, recognized the impact of specific teaching models and practices, including but not limited to SIOP, and to the value of student choice and expectations in classroom tasks, Joseph and Liliana did not identify any expectations of students or teachers’ instructional strategies that would affect the motivation they wished to address. Where Team Strong recognized Mental Processes and Cognition alongside Sociocultural Influences in their consideration of learning mechanisms to address in the classroom, Joseph and Liliana’s list of goals and challenges only noted sociocultural influences. In their initial professional development training, they did not recognize their need or ability to improve their presentation of instructional accommodations as a primary goal or as challenges, they needed to address as co-teachers. Instead, their focus settled upon outside sociocultural influences, on the cultural values placed on academics and the social distance between the literacy practices in ELL homes and those in their schools. In the one instance where their attention was not focused on the deficits posed by students’ home culture, it was focused on other teachers and their need for more training in understanding these cultural differences.

Joseph cited an inability or refusal to acknowledge target areas for improvement in their own instructional design and practice in his reasons for discontinuing his participation in the study prior to the completion of even half of the action research cycles. Indeed, instructional
design in his classroom was beneficial for ELLs, including his adherence to several components of the SIOP model, such as fostering interaction, providing visuals, and opportunities for review and practice. Perhaps he was correct when he stated that, “we already do what is needed for our students”. He did not respond to attempts by the researcher to focus reflection and planning activities on students’ performance and learning tasks.

Despite early articulation of these goals and concerns, however, Joseph and Liliana did not pursue them when Joseph emphasized his ability to “already do what is needed for our students”. Liliana’s voice was absent from those conversations, though her physical presence was not. This lack of voice can be attributed, at least partially, to the lack of parity between this highly qualified license teacher and this unlicensed aide. Despite her success with academic interventions and in building respect among students and colleagues, Liliana was unable or at least unwilling to advocate for herself or for her students as her co-teaching relationship faltered. Without the appropriate licensure and the education required for that licensure, Liliana likely did not possess some of the knowledge or insights necessary for improving instruction even when commendable practices were already in place, and for improving relationships with diverse students and their family with the goal of improving academic performance. Other assets held by members of this team did not overcome the lack of this prerequisite condition of parity.
Figure 3: Team indifferent fishbone diagram. Joseph and Liliana used a fishbone diagram to identify “Motivation” as a goal for their co-teaching efforts. They noted Sociocultural Influences, Academic Support, and Access to Materials as challenges to address in order to achieve their self-identified goal.

Conclusion of Findings

This study yielded findings that can give meaningful directions for CBLL research and practice in the United States. More specific indicators of prerequisite conditions emerged from CALs and classroom observations with Team Strong and Team Indifferent. This study found that parity exists in different forms than in the presence of respect for the experiences, insights, and abilities of co-teaching partners. Parity between teachers and administrators is important as well, as was exhibited by the experiences of Michelle and Robert. Parity must also exist in regards to formal education and state certification, as exhibited by the experiences of Joseph and Liliana. Administrative support can also appear in different forms, and must be exhibited with a combination of different factors. The administration supported co-teaching by creating CBLL
classrooms and consistently scheduling a content teacher and an ESOL professional to work with students enrolled in that class. Administration encourage co-teaching efforts by supporting the intensive professional development activities of the researcher, which proved to be the reason why Daniel and Kelly could overcome the challenge of working without common planning time. In the end, the administration failed to disprove the perceptions of mistrust expressed by three of the six participant teachers, Kelly, Robert, and Michelle.

Teachers used the intensive professional development experience to identify goals that could meet the particular needs of their particular set of students. They identified goals that were described in the professional literature, and so they were able to use the action research process to employ new co-teaching models and evidence based strategies for ELLs. These modifications to their typical instructional practices had positive effects on student performance and allowed for teachers to make more consistent modifications to their instructional practice. Though these last two characteristics regarding modifications to practice and student performance was not achieved by one of the three teams participating in the study, there was progress made in identifying goals. Conjectures about the reason for these aforementioned failures and suggestions for addressing similar situations in the future are addressed in the following chapter.
CHAPTER 5

DISCUSSION

Because of teachers’ participation in these research activities, including the embedded professional development and evidence of administrative support for co-teaching in CBLL classrooms, teachers were able to define clear goals and descriptive roles, and they were able to transfer these articulations to practice. As multiple exploratory case studies, the efforts of these teachers display the progress that can be made with a supportive environment for co-teaching and they suggested new directions for content and L2 teachers, as well as their administrators.

This study focused on three teams of ESL Science co-teachers in the same middle school building. Since the student population was relatively consistent across grade-levels, or teams, it was expected that each team would experience consistent results. Certainly, each teacher team consisted of individuals who would undoubtedly have different sets of schema driving goals and subsequent approaches to teaching in the classroom. Still, the teachers were part of the same school culture, responding to a similar set of student and family needs, while performing under the directives of the same administration and community-at-large. In many respects, these hypotheses proved to be true. The teachers received the same intensive and ongoing professional development support and they received the same structure to achieve success with their co-teaching endeavors. Despite consistencies among the three teams in regards to their professional relationship with their partner, despite their ability to demonstrate engaging instructional practice, and despite growth in their ability to implement different co-teaching models, there
were glaring inconsistencies, as well. In fact, each of these three teams experienced its own distinct outcome that resulted from varying degrees of commitment from teachers and administrators, alike.

Therefore, the findings were organized to display how each team’s story answers the research questions under review. Perhaps the most significant findings are the consequences that emerged from different factors of prerequisite conditions. In the section that follows, each case study description will include an analysis of the distinct set of prerequisite conditions that influenced the outcome of their co-teaching experience. Secondly, whole group preparation and training activities are described, since these were conducted with all teacher participants working together with the researcher to form teams dedicated to research-based co-teaching practice. Then, each case study narrative was told separately, in order to accurately depict their whole story. Finally, each of these studies were organized to answer the five research questions under review.

**Rationale for Team Names**

The sixth-grade, seventh-grade, and eighth grade teams are heretofore referred to as Team Strong, Team Threatened, and Team Indifferent. They received these names because they suggested both primary threats and assets to the team’s success. Kelly and Daniel are referred to here as Team Strong, because their lack of co-planning time was compensated by their individual strengths. Robert and Michelle are referred to here as Team Threatened, because administrators threatened Michelle’s efforts to make creative decisions she believed would benefit student learning and performance. Though these threats ultimately ended their partnership at the end of the academic year while the other partnerships continued, Robert and Michelle were able to develop as a team, to show progress toward instructional outcomes throughout the duration of
this study, and to provide both creative and innovative models of co-teaching that were capable of meeting the unique challenges of their students. Liliana and Joseph remained indifferent to participating in the action research cycle, and so they terminated their commitment to the project at its approximate midpoint. This indifference, however, did not prevent their participation from providing data that helped answer each of the research questions under review here.

Prerequisite Conditions

Each team illustrated the foundational importance of prerequisite conditions, because they bear heavily on the outcomes experienced by each of these teams. Prerequisite conditions emerged in distinct ways for each of these respective teams and they affected the level of success each team found in this experience.

Prerequisite conditions were strong on a foundational level, but findings suggested that further articulation of what these conditions are and how they can be used in different combinations, depending on available resources in a particular district, is needed. The professional literature only very broadly suggests that administrative support, common planning time, and parity are prerequisite conditions of co-teaching, but these multiple case studies reveal a more complex web of various indicators at play in co-teaching efforts.

The researcher began the study with indications that these three conditions were met in this particular setting. In fact, these three conditions were met to varying degrees, and only according to indicators that were not recognized in the professional literature.

Administrative Support. Since administrative support lies at the foundation of a critical assumption in this field of study, further research is needed to explore the effects of its different iterations. In this research project, three indicators of administrative support emerged from the setting and from teacher reflections: (1) commitment to the professional development model, (2)
commitment to the program design, and (3) ability to protect common planning time. Future research needs to delineate other indicators of administrative support required for a successful co-taught CBLL classroom and to assess different ways in which certain indicators can be combined with others in order affect educational outcomes for ELLs. These other indicators include: (1) trust in the administration’s intent and ability to continue co-teaching efforts beyond a minimal initial stage of implementation and (2) trust in the administration’s support for teachers as they inevitably experience some failures implementing new instructional strategies (i.e., the ability to live without fear of evaluations while they work to try unfamiliar practices).

Teachers in Team Strong and Team Threatened expressed feelings of distrust for the administration. Kelly explicitly stated that she suspected co-teaching was an initiative that would not last, because in her view the administration consistently chooses new priorities to which teachers must align their practice and prior initiatives are sacrificed in order to implement new ones. She saw co-teaching as something resembling a fad. Daniel expressed frustration with his ability to create collaborative groups and facilitate interaction in his classroom, because of the administration’s scheduling and placement practices. Team Threatened, who struggled with student performance and engagement, echoed frustrations with this aspect of administration support. ELLs with a low English Language Proficiency Level as determined by the state’s assessment were placed in the same sheltered classes for several years; these teacher participants all advocated for more dispersed placement for students who have been in US schools for several years and who, therefore, have the highest ELP levels in the group.

Finally, problems with administrative support were perhaps most detrimental to Michelle’s efforts, since her fear of her evaluating administrator heavily influenced her decisions about instruction; she would hesitate to make decisions that she would benefit her students,
because she did not want get in trouble. The same distrust was echoed in Robert’s insistence on using the term “student engagement”, because he felt it was something that could be measured and therefore used against him in evaluations.

The sixth grade team, on the other hand, was strained by their lack of a common planning period, creating fewer opportunities to engage in the action research process. This strain was exacerbated by the ESOL teacher’s lack of buy-in to co-teaching and ESOL inclusion. According to reflection meetings with the researcher, this lack of buy-in was the result of her perception of inconsistencies in the administration’s priorities. In her view, the current emphasis on co-teaching was one that would not persist. Her trust in administrative initiatives was lacking.

Because each of these collaborative teams faced distinct challenges; a comprehensive list of impediments to co-teaching efforts could be gained. Still, each team benefited from a variety of common supports. Administrative support is often cited as a crucial prerequisite condition for successful co-teaching endeavors. Administrative support was surely present here, since the setting of the study was chosen due to its history as a culturally and linguistically diverse district with a comparatively robust program design. Typical of a Midwestern district with any amount of ELLs, the best commitment of resources supported co-taught content-based language courses taught by at least one bilingual teacher. Though two-way bilingual programs were virtually non-existent, save for a Spanish for Native Speakers course at the high school level, the next-best option was supported in full force with the co-taught science courses described in this study. The administration displayed their commitment to the co-teaching efforts by offering co-taught content based language courses to their ELLs, by providing participant teachers with professional development training in co-teaching and action research throughout
the duration of one academic year, and by supporting both of these commitments with common planning time for two of the three participating teams.

Administrative support was evident in this setting, but indications soon emerged to suggest that this support was too complex for it to be marked as simply existing or not existing for these teachers and their co-taught sheltered program. The presence of one indicator for one group did not necessarily mean that it was present for another group. In several instances, one group was able to sustain its co-teaching efforts and growth as a collaborative efforts, because they enjoyed an indicator of administrative support that conversely frustrated the efforts of another team.

The researcher at the onset of research activities knew one indicator of support that frustrated the teachers’ efforts. The lack of collaborative planning time for Team Strong was a threat to the co-teaching experience for them, but the threats were mitigated by teachers’ participation in ongoing professional development activities that were designed to support co-teaching. The researcher at the onset of research activities, however, did not know another indicator of support that frustrated the teachers’ efforts.

Distrust between the administration and several teacher participants continually threatened their perceptions of success. For Team Threatened at the seventh grade level, the science teacher, with her limited teaching experience, particularly at this age and grade level, did not feel supported by her evaluating administrator. Furthermore, the veteran language teacher expressed concern about the administration’s questionable commitment to the content-based co-teaching model. There was also the added stressor of questionable parity, not between the content teacher and the ESOL teacher, but between the rookie content teacher and her more experienced colleagues in the science department.
The only evidence of a lack of administrative support for Team Strong came from private conversations with Kelly. Kelly’s concerns about the administration, expressed during reflection and planning meetings, are mostly expressions of her own fears about their commitment to this effort in co-teaching and in efforts in other professional development practices that have come before it. Her comments about administration consistently reflect her fears, but there is no evidence that these fears are founded in any lack of support for her efforts in co-teaching.

This threat existed, to a lesser degree at the seventh grade level, as well. Teachers on this team expressed concern about whether the district would continue to develop co-teaching environments. Any opinions related to administrative support, whether they be perceived threats or invaluable supports stemmed from a variety of experiences with administrative decisions. The administration’s commitment to the maintenance of a robust professional development program was a positive indicator of support that persisted throughout the course of this study. Still, teachers’ harbored negative perceptions of administrative commitment to the project. According to Kelly and Robert, their distrust of the administration’s commitment to new initiatives was the result of the administrations prior record in supporting initiatives beyond an initial phase of implementation. Teachers did not trust that co-teaching efforts would be sustained for an extended period, and therefore, there was a reluctance to fully commit to them.

Distrust of the administration turned out to lie at the heart of other indicators of support that posed threats to these teachers’ collaborative efforts. Michelle’s and Robert’s reluctance to fully commit to their team’s goals and co-teaching practice was the result of their distrust of administrators’ evaluations of the teachers.

Common planning time was an indicator already identified as an important prerequisite condition for co-teaching. The presence of common planning time for two of the participating
teams proved to contribute positively to their ability to achieve the goals of this research project. Conversely, the administrators’ inability to protect common planning time for Kelly and Daniel was a negative stressor on their efforts, but it did not turn out to doom them. Challenges posed the lack of planning time was compensated by the sacred space for collaboration that was provided by the intensive ongoing professional development experience. The manner in which professional development experiences are designed for co-teachers also requires further research. Considering the learning needs of a particular student body and the available resources of the district, further research can imply a best possible course of action.

**Parity.** Despite this exposure to teaching ELLs, parity also emerged as a threat to the seventh-grade team’s success, since Michelle’s limited experience was gained in three different settings. Her disjointed path into education complicated interaction with administration, colleagues, and students. As a result, her teams’ co-teaching success was challenged by a lack of perceived parity between the content teacher and her department level colleagues and between the content teacher and her evaluating administrator.

By her own account, Michelle’s position among department level colleagues and her evaluating administrator was called into question. Matters related to administrative support are key to meeting prerequisite conditions in a co-teaching setting. Findings for prerequisite conditions are addressed in the next section, as well as in the team’s narrative of reflection and planning meetings.

This challenge relating to the status of one of the teachers on the team, or the parity between co-teaching partners, and the consequent interactions with colleagues was also apparent at the eighth grade level where the unlicensed status of the eighth-grade ESOL professional, Liliana, ultimately posed threats to their potential outcomes. Though she was highly respected in
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the building, among colleagues and students alike, this status created obstacles to parity and to subsequent success. These obstacles to parity were most strongly evident during instruction, though some indications also surfaced during reflection and planning meetings.

Liliana’s inability to assert a more central role in reflection, planning, and instruction could very well have stemmed from her lack of training as a teacher. There were indications that her team’s choice to abandon the efforts of professional development activities resulted primarily from Joseph. Liliana offered no support for the decision when Joseph informed me that they were suspending their participation. Her silence in this decision was matched by a similar silence in planning meetings. She offered fewer ideas and strategies for implementation than the other ESOL teachers in this study, preferring to follow Joseph’s lead in instructional design decisions and persisting with the one-teach one-assist co-teaching model.

Although Liliana and Joseph identified objectives and roles that match their skill set and that would positively affect educational outcomes for ELLs in their classroom, the instruction sometimes failed to match the roles and objectives they originally identified. This failure to match instruction with reflection and planning stemmed largely from their inability to achieve parity with their colleagues. Team Indifferent relied on Liliana to act as an aide to the students with the lowest English language proficiency level. Liliana never asserted a more central role with instructional delivery and Joseph never provided the opportunity, despite the fact that preliminary discussions to try new co-teaching models with the purpose of challenging their traditional roles did occur in their planning.

Research Question One: Teacher Goals

Research questions were based on existing research in co-teaching and SLA, particularly in regards to K12 sheltered instruction; also, questions were formulated as a result of existing
conditions in K12 settings where resources, when they are made readily available to program
design and teacher training, are typically allocated to sheltered programs. Since bilingual
programs are the exception and transitional programs are the norm, educators wishing to enhance
CBLL classrooms with co-teaching were likely to find that teachers who operated under
supportive conditions, including embedded professional development support, would choose
goals that closely align with the skills and knowledge of their field, whether that be in core
content instruction or in ELD. Similarly, these teachers were expected to choose roles in their co-
teaching partnership, as well as in their instructional practice that would also correspond with the
professional knowledge of their respective field.

During initial professional development and training activities, Kelly and Daniel chose to
focus on Student Articulation of Ideas/Vocabulary Acquisition and Application. When they
identified objectives that would be required to affect change toward this goal, they noted a need
for more input regarding placement and grouping of ELLs among the NES population.
Significant attention was paid by these co-teachers, in planning and instructional practice, to
grouping strategies in the classroom.

Kelly and Daniel relied on a consistent principle for grouping strategies. Students with
the lowest level of English Language Proficiency were grouped together, usually in the back of
the classroom, in order to streamline Kelly’s attention to individual student needs. This strategy
created groups of predominantly NNS, students with the lowest level of English language
proficiency. Students of similar need were seated in one location in the room, so Kelly was able
to move to that location in order to provide translations and explanations. It is true that the
students benefited from an increased amount of explanation and modelling from the ESL teacher.
Also, prior research overwhelmingly supports the value of students’ access to their native
language during target language instruction. There are serious concerns, however, about this rationale for grouping configurations.

Though these NNS were provided with more access to their native language in these groups, they were provided with less comprehensible input of the target language. The value of interaction in SLA (Long, 1981; Gass, Mackey, & Pica, 1998) was originally based on the value of comprehensible input, this foundational theory in SLA now suggests that there are risks associated with Daniel’s and Kelly’s grouping configurations. A more equal distribution of ELLs among NES throughout the content classroom may provide benefits to the L2 learners, because it would provide more comprehensible input from negotiation with NES peers.

The success of evenly dispersed groupings depends at least partially on the knowledge and experience NES have in working with their ELL classmates. Kelly’s role as the ESL teacher, therefore, was to support NES in their work with ELLs. During this first classroom observation, there were instances in which Kelly approached NES students to explain expectations for modeling and interaction with English Language Learners.

Kelly worked to teach all students in the room about what they should expect from their work with ELLs, but this work was only evident on a limited basis. In fact, every teacher, including the ESOL teacher on each of the three participating teams, indicated a desire to have more clearly defined expectations of outcomes. Though content objectives were evident in each of the three co-taught science classrooms, language objectives were not. There was a lack of guidance for what students should achieve linguistically. For instance, Kelly’s assistance to students in the classroom repeatedly consisted of direct translation of directions and content material. As was noted in findings, there were instances in which she could have facilitated higher order thinking skills and academic writing, but did not. Guidance that is more explicit is
needed, for even the most experienced TESOL trained educators. Teachers need to know how to articulate language objectives and how to employ evidence-based practices for facilitating ELLs second language production.

This is an important note to make regarding this team for two particular reasons. First, it is important to remember that although early predictions for this team were far more positive than predictions for the other two participant teams, concerns about the effect of the prerequisite condition of Administrative Support were revealed almost immediately. It was a lack of administrative support, experienced only by this team and not by the other participant teams, that posed a permanent threat and would ultimately prevent this team’s efforts from continuing into subsequent years. Since literature (Davidson, 2006) regarding the effectiveness of teams suggests that they need to be supported for an extended period of time, it can be concluded that in many respects, this team ultimately failed because a lack of administrative support prevented them from reaching more sophisticated stages of effective teaming.

Robert’s insistence on making a distinction between engagement and motivation was an indication of another factor of administrative support that needs attention in future co-teaching projects. Robert explained his preference for “motivation” by expressing concern that “engaged” behaviors are measurable, and therefore, they could be used as a point of criticism in his evaluations. His fears were grounded in suspicion and distrust of the administration. Despite the lack of administrative support for members of this team, there were still important successes. These successes are remarkable from an instructional practice standpoint and they, too, provide insight into a variety of implications for future research regarding accommodations and the instructional practice of co-teaching teams in content area ESL instruction.
Successes resulted from this team’s ability to participate more fully in the activities of this action research project. They were able to meet more regularly for co-reflection and co-planning than the other participant teams. They were able to implement explicit plans into practice for observations that were focused primarily on improving their co-teaching practice and reaching their self-identified goals for delivering content and ESL instruction. They adhered to and referred to these goals throughout different iterations of the action research cycle. Robert immediately identified models of co-teaching, their use of resources during instructional practice, and student engagement in this initial planning meeting, just as the team had done in their initial professional development activities weeks before. The planning discussion was then able to focus on more specific challenges and plans for meeting those in one particular class.

Team Threatened developed a more limited level of parity and had defined their instructional roles with less specificity. This limited development could be attributed to the content teachers’ lack of experience in the building and a related lack of support from administration.

If conversations focused more explicitly on these evidence-based practices prescribed outcomes to be produced by students, then threats to this professional development experience could be sidestepped. The outcomes provide evidence for administrators looking for deliverables and they provide a focus for teachers who fail to recognize needs in their own classroom. Joseph and Liliana’s ultimate indifference toward full participation in research activities prevented them from enacting the plans discussed in reflection meetings. In fact, their work in initial preparation and training activities fell short of identifying places for their own instruction to improve. The challenges faced by students were sociocultural challenges caused by a misalignment between home and school literacies and emphases on education. Rather than attempting to focus their
attention on instructional strategies in Joseph and Liliana’s classroom, the researcher’s attention may have been more aptly focused on the sociocultural aspects of the students’ homes, as was outlined in the team’s original fishbone diagram. Perhaps, Joseph and Liliana’s efforts may have been better spent on training the faculty and staff in the building whom they saw as needing more understanding of the cultural differences among their students or the cultural status assigned to many of them and their families as immigrants.

Instead, efforts to focus on enacting new co-teaching models or implementing new CBLL learning and assessment strategies were not fruitful. Their practice failed to meet commendable goals for co-teaching and to assume atypical roles recommended by the professional literature, because their reflection and planning failed to recognize a need on their own part to adjust instruction. There is minimal data suggesting that the team saw a need to modify their current practices. Any efforts to modify practice for affecting students was stunted by their lack of parity.

The contribution of Team Indifferent to the development of instructional outcomes is incomplete, however, since they terminated their participation in the research project before fully addressing their goals as co-teachers and before experimenting with more effective models of co-teaching. Still, a focus on the contributing factors in their decision to terminate participation can help inform the value of particular prerequisite conditions in the future. Admittedly, their strengths as individual teachers and experience as co-teaching partners are also noteworthy.

**Research Question Two: Teachers’ Roles.**

ESOL and content teachers each assume distinct roles in the classroom, as well as in their professional relationship. Many times, choices about these roles were made because of each teachers’ unique training and experiences. For each of the three teaching teams, the content
teacher assumed the sole of a curriculum manager who is responsible for knowing the content, and for following the scope of the district’s curriculum map or pacing guide. In this sense, the ESOL teachers in this study accepted a dependent role on a foundational level. They immediately followed the lead of the content expert who held knowledge of the material to be taught and the time at which it would be taught. ESOL teachers adapted to the directives, requests, and determinations of their partners. This reactive role was mirrored in the ESOL teachers’ instructional practice. There is evidence that ESOL teachers at the sixth grade and seventh grade levels, from the two individuals who possessed the greatest amount of education and training in teaching ELLs, assumed command of content delivery and classroom management, though this occurred to a much greater degree at the seventh grade level. Though promising, still, there were far fewer instances where the opposite was true, where the content teacher assumed responsibility for making the content more comprehensible to the ELLs.

In a typical one-teach-one-assist model, where the content teacher delivers instruction or facilitates learning activities, the ESOL teacher provided modifications and accommodations. In the first classroom observation, Daniel exhibited his own potential for revising these roles as he provided accommodations for the ELL students with a vocabulary graphic organizer they could use while watching a film with the rest of the class. When the instructional design matched the one-teach one-assist model, Daniel’s team was the only one of the three teams where the content teacher assumed some of the roles that are typically reserved for the ESOL teacher. When participating teams attempted other, more unfamiliar models of co-teaching, however, challenges to the typical roles of the content teacher and of the ESOL teacher were more prevalent for both Team Strong and Team Indifferent.
Robert and Michelle chose models of co-teaching that required both teachers to take a more active role in providing the service most traditionally provided by their counterpart. Traditionally, the content teacher is responsible for teaching content and the ESOL teacher is responsible for making that content comprehensible to each student, for making it accessible via strategies and accommodations. The most apparent example of challenging the status quo occurred in their undertaking of parallel teaching, where each teacher was responsible for delivering content material to a smaller heterogeneous group of students, thereby requiring each teacher to ensure that the content material was comprehensible to all members of the group. The ESOL teacher delivered a lesson on science content while providing the scaffolding required to make that content material comprehensible. Conversely, the content teacher delivered familiar content while working in a less familiar role to ensure that all students in the smaller group understood content delivery. The parallel teaching model was enacted during classroom instruction, but it was discussed beforehand in planning and reflection meetings. Collaborative planning was critical in order to ensure that the ESOL teacher was comfortable with the content and to ensure that lesson delivery would meet the needs of ELLs.

The team’s versatility with co-teaching models challenged the conventional roles of co-teachers again when they carefully planned and executed station teaching. In this model, each teacher had time to deliver instruction to small groups of students and then assist students who were stationed elsewhere in the room. Each teacher delivered content and accommodations; the lesson engaged particular students who displayed disengaged behaviors in previous lessons; more opportunities for speaking and interaction were offered to students as they negotiated meaning with their peers and in one-on-one informal conferences with the teacher. Because of
their co-teaching experience, these teachers assumed more dynamic roles that met more dynamic student needs.

**Research Question Three: Instructional Practice**

Analysis was conducted of teaching practice in order to determine if teachers’ respective instructional practices align with the goals identified in co-planning and reflection meetings between the co-teaching partners.

In addition to Kelly’s and Daniel’s success with the prerequisite condition of reaching an effective level of parity, they also found success with identifying collaborative goals and taking steps during instructional practice to achieve those goals. Kelly and Daniel employed research-based instructional strategies with a regular focus on their self-identified goal to improve academic vocabulary and literacy, and student engagement.

Additional support is required for Team Strong to make modified instruction more explicit. Once again, a major strength for this team is its foundation of parity: both members of the dyad assume productive roles during instructional practice as well as during planning, with little time wasted in negotiating what these roles ought to be. While their claimed roles is helpful for a team that lacks the common planning time, providing parity and respect with how they address students’ needs, it does not allow them to adequately reflect and pursue training with commonplace instructional strategies.

**Limitations**

*Potential bias and threats to validity.* The dual role of the primary investigator as both a professional development provider and a data collector may raise questions about the researcher’s bias. In future research, these concerns could be assuaged by assigning these two separate duties to two separate parties, though this is not a necessary step, as a result of the
exploratory case study design and the action research methodology. Action research, by definition, engages participants in the role of researcher. Action research is an iterative process, where research questions and goals are refined throughout the entire research project. Similarly, exploratory case study design allows concepts to emerge as research activities progress throughout the project. The case studies allow educators to recognize the distinct context in which CBLL classrooms exist and to reveal new factors.

Issues related to the teaching experience of some of the participants, including their credentialed status, limited the potential of this research study. Similar issues, therefore, are likely to limit the potential of future research, as well. Since bilingual instructional aides are often used by programs with co-taught CBLL classrooms, there is reason to explore the potential that these aides may find in ESOL classrooms. Still, future research must adequately explore what instructional practices will produce desired outcomes in co-taught classrooms that are taught by two licensed teachers of content and TESOL, respectively.

**Suggestions for Future Research**

Within the sources of data, three categories of factors were identified in order to help delineate topics for future research. From sources of data that include field notes taken during classroom observations and from the Collaborative Assessment Log (CAL), a tool used to collect participants’ reflections and instructional plans, data was categorized into these three general factors: players, processes, and outcomes. Open coding identified three channels for work to pursue in order to improve co-teaching because of this study. Due to findings, future studies can focus on progress with the people involved in co-teaching practice (players), the specific work they are doing with students and other educators (processes), and the results that are worth replicating (outcomes).
By categorizing emerging factors, key concepts were identified and parsed for future analysis. The concepts that were distinct to each unit of analysis were (1) in field notes of classroom observations, the relationships and expertise of the players involved in these practices. Primarily, the relationships and expertise of teachers emerged as the focus of analysis, but there was a less frequent, though not less important, focus on the relationships involving administrators and also those involving students. To an even less frequent degree, some emphasis emerged from the cultural practices of the school and of the broader community it served. (2) Reflection and planning processes emerged as (3) concepts associated strictly with outcomes are Instructional Accommodations and Learning Tasks. Concepts that were common to more than one category of factors are Resources, Assets, Challenges, Roles, Objectives, Beliefs, Performance, and Action Steps.

A research agenda can investigate who (players) contributes to improving co-teaching practice, their long-term and short-term objectives in the field, their commitments to the process required to achieve student success, and their observable impacts. A separate, but related research agenda can investigate the processes required for successful co-teaching practice, including the resources and structures that are required for the endeavor to produce intended outcomes. For example, results in this study identified these inhuman resources and structures as various indicators of administrative support, various indicators of parity, and ongoing training and support in an array of professional development topics. This research agenda in the processes of co-teaching can begin to investigate how to structure co-planning time so that it best produces the observable impacts of student success. Finally, a research agenda to investigate the outcomes produced in these efforts. These outcomes may come in the form of curricula, materials, student performance, professional development and community involvement.
Concepts related to players, processes, and outcomes were gleaned from open coding. The *players* in this educational setting included the teachers and the students as human participants in the study, in addition to the non-human players that affected their behavior. Administrative constraints, school culture, and social culture, were also players in this study, interacting with other players in both intentional and unintentional ways to influence the collaborative partnerships being developed by these co-teachers.

References to the people involved in co-teaching efforts appear across all phases of the data collection process, during reflection and planning meetings between co-teaching partners, during classroom observations, during professional development and training sessions, and from planning meetings with administrators. In reflection and planning meetings between co-teachers, students are the players referenced most often, typically in relation to their performance in the classroom and teachers’ attempts to affect that performance.

Aside from discussions about students, co-teachers most frequently reference each other in these reflection and planning meetings, articulating specific tasks completed during instructional practice and assuming distinct roles in their professional relationship. Finally, administrators are also players mentioned during these meetings. Though administrators were mentioned less frequently than students and co-teaching partners, they are referenced with enough frequency to deem their role from the perspective of teachers as having a significant impact on co-teaching practice.

In classroom observations, players were referenced in observation of teacher practice and student performance. Most often, student behavior was documented in response to teacher practice or vice versa, where teacher practice is documented in response to student behavior and performance. Players were also mentioned in the planning meeting between the researcher and
administrators, and so these references will be reported to help balance and triangulate the perceptions recorded in teacher meetings and during instructional practice.

During planning and reflection meetings, teachers more frequently alluded to students than to themselves as teachers or to administrators. Reasonably, the intent of these meetings was to design meaningful instruction that would positively affect student learning and classroom performance. It was expected that most conversations would revolve around the students’ roles in a co-taught classroom.

Research questions to address in future studies of co-taught K12 CBLL classrooms:

1. How does student performance respond to the goals and instructional practice of ESL and content teachers in a co-taught setting?
2. Should teachers’ goals and objectives, roles, and instructional practice be modified in order to enhance the literacy development of ELLs in the co-taught classroom?

**Suggestions for student performance.** There is potential for increasing research foci on student outcomes, particularly on learning activities that can validate the strategies so widely accepted by SIOP proponents, as well as on spreading the use of more rigorous tools for supporting and measuring academic language use via SFL approaches.

The efforts of teacher participants in this study were driven in large part by the processes of action research, facilitated and recorded by the PI. Future research would also benefit from a similar structure for investigating student performance.

**Suggestions for teachers’ roles.** Rodríguez (2013) identifies five effective instructional practices for ELLs because of a collaborative effort between content teachers and pre-service teachers earning a degree in TESOL. These five instructional practices include a demonstrations of strategies for sheltered instruction, learner-centered instruction that values students’ first
languages and cultures, the use of instructional themes to connect content material to language instruction, integration of the four language skills, and valuing students’ native language cultures.

**Future research using SFL.** An application of an SFL framework to classroom tasks, as well as to data analysis may suggest answers to the following questions in future research:

- Does the successful teacher dyad speak of students differently in these planning and reflection meetings than the weak or threatened dyads?
- Are different lexical items used to nominalize the students, their challenges, and their performance or the teachers and their challenges and performance?
- Are features of the discourse between members of the successful dyads different from the threatened or weak dyads, with organizational patterns affected by the teachers’ perceptions of the students and their own ability to address particular student needs?

Aguirre-Munoz et al., (2008) and Achugar et al., (2007) provide evidence of the challenges and successes that professional development in SFL met when implemented with middle school teachers. Nearly 30% of their participants showed little to no evidence of implementing SFL in planning and practice, nor in their feedback for student writing. Aguirre-Munoz et al., (2008) charged that the teachers lacked the administrative and structural support necessary for them to sustain their efforts. This is but one impediment to sustainable professional development, and so it is important to consider options for overcoming these obstacles while building on the frameworks that are offered in the SFL body of literature.

This direction in co-teaching research will provide teachers with a literacy tool that can help learners who struggle to understand the language of college and career readiness. If a team of teachers wishes to provide students with a strategy for success on college entrance exams, for
example, this direction in co-teaching will lead to instructional strategies in SFL. When there are structures of accountability, where instructional products and performance outcomes are the goals, co-teaching will provide a meaningful tool for students to use the language of school and work, wherever that may be. For instance, Achugar et al., (2007) suggested identifying the genres most often tested on these exams and then begin a language analysis of these genres. This is an example where SFL can provide the tools for addressing the literacy needs of ELLs. The professional development has the potential to be embedded and situational (Glazer & Hannafin, 2006: Shulman & Shulman, 2010), and therefore is more likely to create sustained results. Aside from the structural supports that threatened the work of Aguirre-Munoz et al., (2008), challenges are also evident in the significant commitment required of teachers. For new teachers working with mentor teachers, a model of sustained PD also outlined by Glazer & Hannafin (2006). Achugar et al., (2007) also outline processes for making SFL methodology accessible to teachers, not only providing questions to focus them on rhetorical features (Figure 1, p. 17), but also in suggested “points of departure” (p.20).

The processes of lesson planning provide a crucial third element to the conceptual framework studied in this research. The collaborative planning meetings allows individuals to articulate their vision for a desired outcome, while the reflective nature of these conversations and the instrument used to structure them, present the opportunity for teachers to share their concerns about the players that so heavily influence those outcomes. With primary focus on the players in the classroom, players that are both human and non-human factors in student learning, the processes and outcomes provide a critical lens into the pattern that emerge as those players interact.
**Suggestions for action research.** Action research proved to be a supportive avenue for an intensive professional development experience. Facilitated by the researcher, action research processes allowed each team to show measurable growth in their evidence-based strategies for teaching ELLs. Since multiple case study reporting provides the most detailed insight into practice of co-teaching in CBLL classrooms, action research can provide a consistent structure for aligning these case studies to a coherent research agenda.

In fact, the practices of Participatory Action Research could benefit the progress promised by this research agenda if they were also utilized by the student participants in these settings. Students-as-researchers efforts are designed to strengthen student voice in schools, but learners are rarely given the opportunity to use these efforts in order to make important structural, procedural, or pedagogical decisions at the school. Admittedly, impressive efforts are made to train and support students in data collection, but too often, research design is left to the educators, as is the task of drawing conclusions and articulating implications. This token involvement jeopardizes the same student engagement educators wish to incite with this approach (Fielding 2004a, 2004b, 2007). When incorporated into a curriculum effectively, motivation among previously disengaged students can improve (Oldfather, 2002; Rogers, Morrell & Enyede, 2007), and instruction can change to better meet the needs of the students (SooHoo, 1993).

By incorporating a dual role for teachers’ action research circles and those for students in one given classroom, ESL programs can support the pedagogical needs of mainstream content teachers, as suggested by Pawan (2008). Additionally, all students, whether they are native speakers of English or second language learners, can then address Duff’s (2001) concerns regarding ELLs’ limited opportunities to communicate in classes dominated by native speakers.
who have long been enmeshed in American popular culture. Because this collaborative methodology honors the knowledge base of all participants, the results here echo existing evidence that parallel action research projects could create opportunities for previously silenced students to participate more fully in learning activities, contribute more meaningfully to teachers’ pedagogical knowledge, and influence the communities that factor into their education.

No efforts were made in the research and professional development activities to share data with students nor with administrators. Conducting parallel cycles of action research among students and among administrators could foster more expedient responses to the needs of teachers and students (Gibbons, 2006). On a smaller scale, there were also no efforts to debrief with the teachers and there were no expectations from the administrators to receive a report of teachers’ progress in co-teaching. Rather, administrators were satisfied that their teachers were participating in series of professional development training activities related to co-teaching.

Conclusion

By exploring the collaborative practices of content and ESOL teachers who are provided with prerequisite conditions for the development of co-teaching, this study provided a rich description of their experiences and identified potential concepts for future research in these settings. The embedded professional development, implemented within a Participatory Action Research Cycle, provided teachers with a framework for developing co-teaching practice for CBLL classrooms. Within this framework, teachers were able to identify meaningful goals and objectives for the teaching of content to English Language Learners. Teachers were able to explore ways to challenge their traditional roles, so that they may better attend to the linguistic needs of their students. They provided evidence that the embedded professional development and
PAR cycle provided them with enough support to implement new models of co-teaching and other strategies that would affect their goals for student learning.

Teachers’ abilities to develop new strategies and tasks for the cotaught CBLL classroom are influenced by a complex set of different indicators of prerequisite conditions that have not yet been identified or defined in co-teaching research. In order to create supportive environments for co-teaching partnerships, administrative support needs to appear in a variety of forms. In addition to traditional calls for common planning time, administration needs to portray a long-term commitment to developing co-teaching partnerships. In addition, they must take measures to ensure co-teachers will not be penalized for their efforts to try new approaches in the classroom. Parity is another prerequisite condition that needs to be expanded in future research, since this study illustrated negative effects of a lack of parity not only between the two co-teaching partners, but rather between one of the partners and departmental colleagues in the building. When these new indicators of prerequisite conditions are present, there is more potential for teachers to devote their attention to learning and implementing new strategies and tasks for ELLs.

With a stronger foundation of support, embedded professional development and participatory action research for CBLL co-teachers can yield a more robust agenda for K12 settings in the United States. More instances of a critical focus on the use of SIOP strategies can suggest more thoughtful application of those strategies, while expanding teachers’ understanding of other approaches. Systemic functional linguistics is another approach to CBLL education that is underrepresented in US schools. When teachers are provided with the necessary supports, including a complex set of prerequisite conditions, as well as embedded professional development and action research methods, they will be able to explore the potential for
developing students’ academic language via linguistic analysis. SFL provides a framework for the implementation of such linguistic analyses in US classrooms.
References


