EVALUATING THE USE OF CO-TEACHING STRATEGIES TO IMPROVE STUDENT READING

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A Thesis

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Abstract

of

EVALUATING THE USE OF CO-TEACHING STRATEGIES TO IMPROVE STUDENT READING

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Developing and implementing effective service delivery models for students with special needs is both challenging and critical. Emerging research supports the use of co-teaching strategies during which a general and special educator share roles and responsibilities to instruct a group of students with and without disabilities. This quasi-experimental, action research study explored the impact of co-teaching on the reading fluency and comprehension scores of fifth grade students with and without disabilities. The study collected the following data: student achievement data (DIBELS) from students in the treatment and comparison classes; teacher memos and interviews; logs of time that participating teachers spent in collaborative meetings; and logs of time that teachers engaged in each form of co-teaching. Findings from the study suggest reading fluency and oral retell fluency growth in the treatment and comparison classes was statistically insignificant; however, some changes in student achievement suggest co-teaching was an effective method for some of the participating students. Findings reveal the experiences of the participating teachers, the amounts of time they spent planning, and the amounts of time they engaged in each type of co-teaching model. Additionally,
findings give depth to the numerous elements necessary for successful co-teaching, most poignantly the professional relationships between participating teachers. The study discusses further research necessary to investigate the impact of co-teaching on students with learning disabilities in schools nationwide.

___________________________, Committee Chair
Jean Gonsier-Gerdin, Ph.D.

____________________________
Date
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Chapter 1

INTRODUCTION

Serving students with special needs goes beyond providing instruction for the minutes outlined on their Individual Education Plans (IEPs). Truly meeting exceptional students’ needs entails working on IEP goals as well as working to ensure students are accessing, understanding, and benefiting from the general education, grade level curriculum. With multiple grade levels to serve, the special educator would not be able to achieve this goal without collaboration with the general education teachers who also serve students with special needs.

What the collaborative partnership between general and special educators looks like is often a matter of discussion and debate (Le Mare & de la Ronde, 2000). Entangled in this debate is the defining of the special and general educators’ roles in serving all students. Many models of support and collaboration for serving students with special needs exist, and each has its merits and drawbacks (Le Mare & de la Ronde, 2000). Schools typically use variations of one or two models of support: “pull-out,” where students leave their general education classrooms to participate in groups inside a special education classroom, or “push in,” in which special education teachers and paraprofessionals assist students inside their general education classrooms. While pull-out programs continue to be widely used and show some benefits to students, push-in programs are emerging as viable alternatives to pull-out models (Cook & Friend, 1995).

Co-teaching is one push-in model that is gaining momentum as more studies emerge in support of its effectiveness in meeting the needs of students with and without
identified disabilities (Welch, Brownell, & Sheridan, 1999). While the majority of the research available on co-teaching outlines the components of an effective co-teaching program (Welch, 2000), there is not a large body of research that focuses on student achievement in co-teaching situations. The current study serves to explore the effects of co-teaching on the reading fluency and comprehension scores of students with and without disabilities in a fifth grade classroom.

Background of Problem

Our public education system faces the challenge of meeting the changing needs of all students. The tight interweaving of educational law, theory, and practice creates a perpetual motion of transformation and reflection. Many aspects of education, such as curriculum, assessment, and school choice, are in the process of change and are therefore the subject of media attention and debate. Few aspects, however, seem to gain more attention and passion than those surrounding the education of students with special needs.

The methods of delivering special education services have revolutionized in the past three decades (Le Mare & de la Ronde, 2000). In the early part of the twentieth century, common practice was to exclude students with special needs from the educational setting. From the 1920’s to the 1970’s, the educational system often served students with special needs in segregated facilities (Graves & Tracy, 1998). With the groundbreaking passage of the PL 94-142 legislation in 1975, however, the trend in the education arena began to shift and gain momentum over time toward the integration of students who have disabilities with their peers in typical schools and classrooms. Over the last three decades, several options have become available as service delivery models
for students with learning disabilities (United States Department of Education, 2008). These options are typically variations on two main approaches: pull-out, where students leave their general education classrooms to get instruction inside special education classrooms or learning centers, or push-in, where special educators come into the general education classroom to assist the students there.

The pull-out model continues to be the most prevalent model of support for students with learning disabilities (Friend & McNutt, 1986). Nevertheless, pull-out programs do not always best serve the needs of students with learning disabilities. Opponents to pull-out programs list several areas of concern that are inherent to a pull-out model of support: scheduling, support in the general education classroom, assessments, and concerns over the least restrictive environment (Le Mare & de la Ronde, 2000).

A primary challenge associated with pull-out models of support is scheduling; a program that serves an entire school is at the mercy of several schedules for instruction times, recesses, and lunch periods. In theory, pull-out support would be scheduled at a time of day that did not conflict for a student. For example, a student would not receive support for reading when his or her class was engaged in a math lesson, so that the student would not fall behind in math. In reality, most resource specialist teachers serve an entire school with many grade levels and schedules to accommodate. Although the resource specialist may make every attempt to pull a student from class at a time that least impacts the student, he or she may not be able to avoid this situation, setting the student up for struggles in the missed academic area.
Another scheduling difficulty associated with pull-out service delivery models is the unavailability of support in general education classrooms during challenging subjects for students (Voltz & Elliot, 1990). Special educators may be able to support students with special needs in accessing the curriculum delivered by the general education teacher in their pull-out setting, but they cannot do so within the general education classroom if they are not physically there. General education teachers report not having enough time or experience appropriately modifying work for students with special needs, so they instruct in their usual manner with the hope that the students will catch on. (Baines, Baines & Masterson, 1994). Researchers often reveal the lack of generalized skill and coherence between the general and special education classrooms (Slavin, 1987; Voltz & Elliot, 1990). Oftentimes, the special educators will then pull the students for extra time to make up for instruction lost or denied in the general education setting (Bean, Cooley, Eichelberger, Lazar & Zigmond, 1991). This compensatory practice, however well-intended, defeats the original purpose of integration and sends a subtle affirmation to the school that these students do not belong in the general education classroom (Bean et. al., 1991).

Students participating in inclusive education settings with pull-out special education support also face the challenge of being assessed on grade level materials they have not learned, due to lack of proper in-classroom supports or missing lessons entirely while they are in a pull-out program (York-Barr, Ghere, & Sommerness, 2007). These students are tested throughout the school year with curriculum-based assessments that measure skill and content. These students then face at least a week of state and/or federal
assessments in the spring of each school year. Again, much of the question base for these assessments is supported by instruction in the general education setting. Beyond creating a very frustrating situation for students with special needs, these state and federal assessments carry important implications for school sites. Should end of the year testing determine that a school is not making “adequate yearly progress” (U.S. Department of Education, 2008), a school may face a host of consequences, including changes in funding, staffing, and instructional practices (Kahn, 2004). Students with special needs are an important subgroup considered when analyzing state and federal assessment data; therefore, their instruction and their consequent success on these assessments is of importance to every professional at school.

Opponents to pull-out service delivery models have also asserted that pull-out models are not always the Least Restrictive Environment (LRE) for students (Le Mare & de la Ronde, 2000). These opponents stress the importance of considering the LRE as described in the Individuals with Disabilities Education Act (IDEA) 2004. IDEA 2004 mandates:

Each public agency must ensure that-- (i) To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are nondisabled; and (ii) Special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only if the nature or severity of the disability is such that education in regular classes with the use of
supplementary aids and services cannot be achieved satisfactorily. (H.R. 1350, 2004)

While the phrase “appropriate” leaves a vague understanding of the amount of actual time in the general education setting most beneficial for each student, what is clear is that school districts should consider all options of support before suggesting a pull-out program where students are not with their non-disabled peers. To support students in the LRE, school districts try a number of approaches, like teacher trainings, assistive technologies, and paraprofessional educators helping students in class (Walther-Thomas, Bryant & Land, 1996).

The research base has demonstrated that the following need to be in place for a successful inclusive education setting to exist: collaborative planning time, curriculum design, “essential questions” used to decide on the content for a particular unit, modified or adapted materials, assistive technology, modified teacher expectations, and support from classmates or an adult (Jorgensen, 1995). The pull-out model of support does little to address these components key to including students in the LRE. In particular, special educators have difficulty helping students meet their unique needs in class when the special educator is not able to be present inside the general education classroom. On the other hand, the co-teaching model is a method that provides students with appropriate supports and enables the successful inclusive education of students with special needs in the LRE because it enables special educators to physically be inside general education classrooms with the students they support.
Furthermore, pull-out models of support do not address the teachers and other students who could also benefit from the expertise of a special educator. Most general education teachers are receptive to help in their classrooms for their students with special needs (Welch et al., 1999). In fact, they are often looking for ideas, resources, and personnel to support students who are not identified with disabilities, but who are struggling with grade level material (Baines, Baines & Masterson, 1994; Hourcade & Bauwens, 2001). Push-in models of support, such as co-teaching, are being explored as a way to provide general education teachers with the opportunity to improve their knowledge and skill base of working with students who have special needs. Special educators are pushing into general education classrooms in a dual effort to help students with learning disabilities access their grade level curriculum and empower general educators to meet the needs of these students (Cook & Friend, 1995). Many general educators report that they would like to enhance their skills for meeting every student’s needs and like working with a special educator, in a consultative or modeling role (Welch et al., 1999).

The central question is which service delivery model, pull-out or co-teaching, enables the students with special needs to receive the most appropriate education within the general education setting and with the general education curriculum (Le Mare & de la Ronde, 2000). Can push-in methods of support, such as co-teaching, empower students and teachers to maximize student performance? Or do pull-out models of support continue to demonstrate the most impact on student performance for students with learning disabilities? It is imperative that school districts explore a multitude of
instructional options to meet the needs of every learner, and taking a fresh look at the role of special education teachers can unlock instructional options to do just that. Research that uncovers methods and philosophies effective for students with special needs often provides information for general educators and students as well. With the current philosophical and legal movement towards the participation of students with special needs in the general education curriculum and with the current urgency of improving all students’ academic performance through No Child Left Behind mandates, the time is now to uncover more effective ways to utilize special and general educators in serving all students.

Purpose of Research

In any school district, there are several hundred reasons to analyze and improve instruction for students with special needs: the students themselves. Beyond these inspiring, living reasons are a multitude of educational questions and components. This study aimed to explore one option in the search for an answer as to how the practices, philosophies, and resources that characterize special education programs could infuse a school in a way that benefits both special and general education students.

Research questions addressed by the current investigation included:

1) How did co-teaching impact the reading fluency and oral retell scores of fifth grade students with and without identified learning disabilities?
2) How much time did participating teachers spend planning for co-teaching?
3) How much time was spent in each of the co-teaching formats?
4) What were the teachers’ impressions of co-teaching and its impact on daily instruction for students with and without disabilities?

Specifically, this quasi-experimental study examined the impact, strengths, benefits, and limitations of the co-teaching model of service delivery for students with special needs. The primary objective of this study was to analyze the impact of co-teaching on the reading fluency and comprehension scores of fifth grade students with and without disabilities as measured by grade level DIBELS assessments. Secondary objectives of this study included the analysis of data on the time commitments of co-teaching, the amount of time each model of co-teaching was used, and teacher reflections on the co-teaching process. These objectives were achieved through analysis of data such as student reading fluency scores, logs of time spent planning, logs of time spent in each co-teaching model, and reflective memos completed by participating teachers collected over a six month period. A summative interview with the participating teachers also provided data for analysis.

The total number of days during which co-teaching took place was 93 out of 110 available school days during the study’s timeframe. One class, consisting of thirty students, including eight with identified learning disabilities, one “at risk,” and one with a 504 accommodation plan, was co-taught by a general education teacher and two special education teachers, during two blocks of time daily. A second fifth grade class was utilized as a comparison class, providing assessment data but not receiving the co-teaching treatment. Included in the comparison classroom was one student with identified learning disabilities, one student with emotional disturbance, and three students
considered “at risk” for retention or remediation, as well as three students who have been assessed, but who have not qualified for special education services.

The results of this study were then considered in evaluating the models of support for students with special needs at the researcher’s school site. This study also highlights the need for the reexamination of the role of special educators as collaborative resources for the school staff.

Research Theoretical Framework

The research framework for this study was an action research approach using both quantitative and qualitative data collection methods. The cohort of students demonstrating the most academic need on the school campus was chosen to provide data on student achievement in relation to co-teaching methods as well as to provide intervention to students with and without identified learning disabilities. Choosing one grade level as a focus helped model co-teaching for the school campus, as research has shown the change in teacher roles can be challenging for school staff adjusting from pull-out to co-teaching models (Kloo & Zigmond, 2008; Hourcade & Bauwens, 2001). Finally, the researcher embraces the philosophy of inclusive education of students with special needs in general education settings. This study was an examination of one of many ways to make inclusive education successful for students with learning disabilities as well as their teachers and classmates.
Definition of Terms

Co-teaching

Co-teaching is defined as the practice of two or more people engaging in instruction, collaboration, and differentiation for students in a classroom.

General education teacher

General education teacher is defined as the person assigned to teach a general education classroom for a school term.

Special Education teacher

Special Education teacher is the person assigned to provide instruction, case management, and necessary supports to fulfill a student’s IEP requirements.

Push-in services

Push-in services are instruction times provided by a teacher or paraprofessional inside the general education classroom. Students are supported in whole class or small group activities. One category of push in services is co-teaching.

Pull-out services

Pull-out services are instruction times when students leave the general education setting to receive instruction in a special education classroom or learning center with a teacher or paraprofessional. Individually or in small groups, students participate in intervention programs or receive pre-teaching or re-teaching lessons of their general education materials.
*Reading fluency*

Reading fluency is the speed and accuracy at which a student can read a given passage. Reading fluency is measured in words per minute (wpm).

*Reading comprehension*

Reading comprehension is the demonstration of understanding of a passage that a student has read. This is typically measured by students’ answers to questions based on the text. These questions can be literal or may require students to infer an answer from their text.

*Alternative teaching*

Alternative teaching occurs when one teacher instructs the large group of students while the other teaches a small group of students, engaging them in pre-teaching, review, or guided practice.

*One teaching/one assisting*

One teaching/one assisting is a technique during which one teacher assumes responsibility for leading the whole-group lesson, while the other teacher roams the room, assisting students as needed.

*Parallel teaching*

Parallel teaching occurs when both teachers plan and implement lessons together but each takes one half of the class for the simultaneous lesson.

*Station teaching*

In station teaching, each teacher arranges a section of the classroom to be their instructing area and each delivers a different lesson to each group of students, who rotate through the stations.
Team teaching

Team teaching takes place when both teachers assume lead roles in a whole-class lesson, taking turns in instructing the class together.

Assumptions

The following assumptions were made by the researcher in this study. The teachers involved in the co-teaching process used the selected methods and curriculum with fidelity. The instructional tools and curriculum used for reading fluency and comprehension were research based and were the best options available for use with the student population in the study. The assessment data collected was accurate and was a valid indication of student progress.

Justifications

There are numerous studies surrounding the necessary elements of successful co-teaching and the effects of co-teaching on teachers’ perceptions and attitudes (Murawski & Swanson, 2001). However, there are limited and somewhat anecdotal data supporting student achievement in co-teaching classrooms. (Murawski, Swanson, 2001; Fontana, 2005; Welch et al., 1999). Researchers emphasize the importance of using student achievement data to validate the use of any service delivery model, including co-teaching (Murawski & Swanson, 2001). This current study adds to the small, but growing, collection of data connecting student achievement to the practice of co-teaching.

The analysis of the co-teaching model was necessary to collect data on a methodology gaining in popularity with little data to support or reject its use. The data from this study was used to modify the current aspects of co-teaching and to determine
future use of co-teaching on the researcher’s elementary school campus. The data may be used by other school districts or researchers interested in alternatives to the pull-out model of support for students with special needs.

Limitations

This study examined the effectiveness of a co-teaching model in improving the reading fluency and comprehension of students with and without disabilities in a fifth grade classroom. The study also used the scores of a second fifth grade class, not co-taught, for comparison. The validity of comparisons between classrooms may be limited, due to non-random assignment and interfering variables, such as differences between teachers of the treatment and comparison classes. The small sample size and single grade level studied may limit this study’s ability to make general statements or program advisements. The relatively short time frame and limited student data collection may also impact this study’s validity. Furthermore, this was the first year of the particular co-teaching partnerships described in the study; the effectiveness of the co-teaching may be influenced by the relationships built between the participating teachers. The one general educator and two special educators participating in the study met each week to plan and problem solve; this undefined period of time may have been a limiting factor in planning for successful co-teaching lessons. The comparison teacher was also encouraged but not required to consult with the special educators to improve her practices; her utilization of this option may have affected her student achievement scores, as the emphasis of this option during the study presented a possible interfering variable.
Organization of Thesis

The remainder of this thesis will be organized as follows: Chapter Two will explore and analyze current research on co-teaching, reviewing the components of successful co-teaching, the benefits and uses of co-teaching, the challenges of co-teaching, and the future research desired by those currently investigating co-teaching. Chapter Three will describe the methods used in the current study, describing the setting, participants, procedures, and analysis of data. Chapter Four will describe the findings of the study, presenting both the quantitative and qualitative data. Chapter Five will discuss these findings, as they relate to the overall themes developed through data analysis, and will conclude with recommendations for the practice and further study of co-teaching.
Chapter 2

REVIEW OF THE LITERATURE

This chapter’s review of the literature will examine the current research associated with co-teaching in Kindergarten through twelfth grade. It will highlight the elements of successful co-teaching, the benefits and uses of co-teaching, the challenges of co-teaching, and the identified areas of needed future research.

Today’s classrooms represent a diverse, dynamic mix of students from all backgrounds and ability levels. Some of this diversity comes from the inclusion of students with learning disabilities in general education classrooms. No matter the composition of the class, meeting the needs of all students is a top priority for educators. What this goal looks like in practice, however, is a matter for research and discussion and the debate is nowhere near a conclusive end (Le Mare & de la Ronde, 2000).

Several options exist for the delivery of educational supports for students with learning disabilities. These include enrolling students in separate schools, educating students in full-time special education classes on general education campuses, including students in the general education classroom with pull-out special education supports, and including students in the general education classroom with push-in special education supports, using the practice of co-teaching (Le Mare & de la Ronde, 2000). The Individuals with Disabilities Act (IDEA) of 2004 describes the basis of inclusion: students with disabilities are best educated in ways and settings most like those of students without disabilities. In an effort to honor this philosophy, educators are
exploring service delivery models that support inclusive education, such as co-teaching. The popularity of the co-teaching model has increased over the past decade, as evidenced by the influx of books, articles, and research on the topic (Welch, Brownell, & Sheridan, 1999).

Components of Successful Co-Teaching

In its conceptualization, co-teaching was described as needing four components: two educators, meaningful instruction, common settings, and a diverse group of students (Cook & Friend, 1995). Since this description, emerging research gives depth to the elements necessary for successful co-teaching. Included in much of the research describing the components of effective co-teaching are common planning time, administrative support, and compatible, effective teacher partnerships.

One element necessary for the successful implementation of co-teaching is something seemingly so elusive to teachers: time. Specifically, research describes the need for the co-teaching team to spend time planning together, reviewing student data, and reflecting on practices (Welch, 2000; Hourcade & Bauwens, 2001). Welch (2000) completed a descriptive analysis of co-teaching at two schools. His research included data collection on the elements of successful co-teaching and student achievement outcomes, and qualitative inquiries with participating teachers. In his study, Welch (2000) calculated that the average time teachers met per week was thirty minutes. Welch (2000) also conducted an extensive review of literature on co-teaching. He found that most literature and co-teaching trainings recommended a minimum time of thirty minutes per week for participating teachers to reflect and plan. A case study by Reinhiller (1999)
agreed that effective co-teaching was heavily dependent on common planning time. This time should be spent jointly planning lessons, reflecting on practices and making appropriate changes, and using desired student outcomes to determine which type of co-teaching approach would be most efficient and beneficial for the students for each lesson (Reinhiller, 1999).

Another element that researchers attribute to the success of co-teaching practices is the support for the practice at the school and administrative levels. York-Barr, Ghere, and Sommerness (2007) conducted a three-year case study on the impact of co-teaching on student achievement at an urban elementary school. This case study revealed that the effectiveness of co-teaching was greatly impacted by the support of the school’s administration, which made policies and schedules that improved or impeded the use of co-teaching (York-Barr et al., 2007). Other studies reported that, since planning and collaborative time were proven necessary components for co-teaching, administrators could support co-teaching by providing protected time for the co-teaching partners to meet each week (Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005). Since co-teaching often requires some changes in teacher philosophy and approach, it can initially cause some anxiety for each member of the partnership, especially general educators (Kloo & Zigmond, 2008; Hourcade & Bauwens, 2001). Administrators can assist by guiding and encouraging the implementation of co-teaching practices and acting as a conflict resolution manager, should interpersonal issues begin to impact the use of co-teaching (Fontana, 2005). Numerous studies on co-teaching have asserted the
importance of initial and on-going trainings for staff, with which administrators can be much help (Hourcade & Bauwens, 2001; York-Barr et al., 2007).

A final element common to most descriptions of successful co-teaching is an effective partnership between the general and special educator involved in co-teaching. In an analysis of data from several long-term qualitative studies on co-teaching, Mastropieri et al. (2005) found that teacher compatibility of perspectives on instruction was so necessary that its absence negated the practice of co-teaching entirely. Through an examination of emerging themes in the abovementioned qualitative studies, Mastropieri et al. (2005) also discovered that special and general educators who reported respecting and trusting each other demonstrated better efforts to modify and accommodate for students with disabilities. Adding to the understanding of the importance of effective partnerships, Welch (2000) described that co-teaching can challenge subconscious assignments of the roles of educators; traditionally general educators are seen as lead teachers, special educators as support teachers. An effective partnership between co-teachers can lessen the friction felt when accommodating a new instructional role and help encourage discussion around these experiences (Welch, 2000). In addition to being compatible, successful co-teachers have been found to maximize their roles within their co-teaching relationship. Without being stagnant in their traditional role, effective co-teachers share their respective gifts with one another: general educators provide a strong mastery of content while special educators share methods and materials to make curriculum accessible to all (Welch, 2000; Mastropieri et al, 2005; Kloo & Zigmond, 2008).
Benefits and Uses of Co-Teaching

Co-teaching was born out of necessity; philosophy and legislators were asking educators to establish means of support so that students with disabilities could be successfully included in the general education setting (Mastropieri et al., 2005; Kloo & Zigmond, 2008). Of the benefits shown for teachers, some of the most commonly reported include learning from collaborative partners, increasing instructional skills and confidence, and increasing student contact time. The benefits for students include increased performance on academic tasks and assessments, development of critical thinking skills, and less social stigmatization (Mastropieri et al., 2005; Kloo & Zigmond, 2008).

Teacher Benefits

One celebrated positive result of co-teaching is the reported increase of teachers’ skills and knowledge through their reflections and growth during their collaborative relationship. In a review of the literature on team teaching, Welch et al. (1999) found that co-teaching provided once isolated teachers a chance to observe and learn new techniques, enhancing their professional skills. Special educators were often more adept at differentiating instruction and ensuring students access materials, while general educators were experts in their grade level curriculum. Kloo and Zigmond (2008) asserted that the pairing of two different sorts of experts accomplished two tasks: students with and without disabilities were taught general education curriculum by an expert teacher, and they were ensured greater access to these lessons through the help of a special educator. More time spent in general education settings is shown to benefit
special educators by providing examples of typical students’ growth rates (Hourcade & Bauwens, 2001).

Teachers also report increased satisfaction and confidence in their practice as a result of co-teaching (Hourcade & Bauwens, 2001). Teachers in general show support of co-teaching and collaborative methods of meeting students’ needs (Welch et al., 1999). Teachers report feeling like they could take risks trying new instructional methods with the availability of another teacher for support (Hourcade & Bauwens, 2001; York-Barr et al., 2007). Both general and special educators participating in co-teaching models report feeling less isolated and more connected to their colleagues (Hourcade & Bauwens, 2001; York-Barr et al., 2007).

Another benefit reported by co-teaching studies is the increase in availability of practices such as small groupings and one-on-one teacher and student interactions that are more easily accessed with more than one teacher available. Cook and Friend (1995) assert, “A primary rationale for co-teaching is that it increases opportunities for student success though expanding instructional approaches” (p. 4). In his descriptive analysis of co-teaching, Welch (2000) also found participating teachers reported that they were relieved to be able to better serve students who were at risk but who did not qualify for special education services. Other studies concur that teachers positively reflected that they had more time to better get to know their students, which in turn, helped them create lessons to reach their students’ specific needs (York-Barr et al., 2007; Welch, 2000; Kloo & Zigmond, 2008). Participating teachers reported that the available support of a
colleague reduced the stressful effects of unexpected changes in daily schedule and student behavior disruptions (Welch, 2000).

**Student Benefits**

Emerging and recent research suggest that students benefit from co-teaching as well. One such benefit is their improved performance on academic tasks and assessments. Welch (2000) reported that the mean scores on reading assessments of students with learning disabilities as well as those of their non-disabled peers increased in co-taught settings. Similarly, Fontana (2005) compared the final averages of eighth grade students with learning disabilities in classes that were traditionally taught and those that were co-taught. In this experimental study, Fontana (2005) found the final averages of students with learning disabilities in co-taught classrooms were significantly higher than those of students with learning disabilities in traditionally taught classrooms. Similar studies provide more support for the assertion that co-teaching benefits students academically in a way that traditionally taught classrooms cannot (York-Barr et al., 2007). York-Barr et al., (2007) found significant improvements in overall student achievement over a three-year case study of co-taught classrooms; students receiving instruction in collaborative classrooms made considerable gains in reading and math. Interestingly, the students in the cohort who did not continue receiving co-taught instruction made slower rates of gains when placed back into traditionally taught classrooms (York-Barr et al., 2007).

Another positive effect of co-teaching is the exposure students received to multiple views and approaches to learning. This exposure has been credited with the development of students’ critical thinking skills (Davis, 1995). In co-taught settings,
students are given high-quality instruction with appropriate accommodations from the viewpoints of two educators (Hourcade & Bauwens, 2001). In an experiment at the university level of instruction, students reported feeling that they benefited from the pooled expertise of several teachers (Dugan & Letterman, 2008). Jang (2006) had a team of two high school teachers instruct two intermediate math courses together and two separately. When Jang (2006) interviewed the students, several of them reported that they were able to better understand math problems when they were presented by two teachers, who often offered different methods to arrive at the correct solution.

A third advantage co-teaching provides to students is an opportunity for better social interactions with peers and less stigmatization attached to attending a pull-out special education program. Le Mare and de la Ronde (2000) surveyed students with learning disabilities receiving support inside the classroom as well as in a special education classroom during the day. Children with and without learning disabilities agreed that push-in services, such as co-teaching, provided better opportunities for students to make friends than pull-out services (Le Mare & de la Ronde, 2000). Researchers also show co-teaching to positively impact the social competence and acceptance of students who have learning disabilities (Kloo & Zigmond, 2008). Students report feeling more connected to their school and having higher self-esteem when participating in co-taught classrooms (Delmore, 2003).

Challenges of Co-Teaching

While co-teaching shows great potential for meeting all students’ needs within the general education classroom, it also maintains some challenges and limitations to its use.
Many of these drawbacks are outlined in the research and include such issues as defining teacher roles, using co-teaching with fidelity, and ambiguous and often conflicting data on the academic and social effects on students.

Moving the historically solo art of teaching into the new realm of collaborative instruction has been shown to cause some upset to traditional teacher roles (Mastropieri et al., 2005; Welch, 2000). A number of qualitative studies highlight teachers’ reflections on such struggles to define teacher roles (Kloo & Zigmond, 2008; Mastropieri et al., 2005). Several special education teachers reported feeling and were observed to act more like paraprofessional classroom aides than fellow teachers when in co-teaching situations (Kloo & Zigmond, 2008; Mastropieri et al., 2005). Teachers sometimes have a difficult time establishing or maintaining their roles within the co-teaching setting, and often fall back to the traditional roles of the general education teacher leading the class, with the special education teacher pulling a small group of students to work together in the back of the room (Murawski & Swanson, 2001; Mastropieri et al., 2005). In addition, the special educators, who are experts in curricular and instructional adaptations, may not be experts of the particular subject in which they co-teach. In said instances, it was reported that the special educators were simply relief for the general educators, helping the struggling students keep pace while chiming in once in a while with an interesting fact or story (Kloo & Zigmond, 2008).

An extension of the struggles with defining teacher roles is the lack of fidelity in the use of co-teaching. Where some co-teachers may begin with genuine interest in the practice of co-teaching, out of habit or perceived ease of use, they may revert to the
image of a pull-out group housed in a general education classroom (Murawski & Swanson, 2001). Other teachers, who may not volunteer to participate or who may not prefer their co-teaching partner, may intentionally subvert co-teaching efforts (Delmore, 2003). Several studies noted that even for teachers dedicated to co-teaching, confusion abounds as to what it looks like and how and when it is best used (Murawski & Swanson, 2001). It has been found that teachers sometimes assume being in the same room concurrently is co-teaching; more often than not, these teachers are missing key components of co-teaching (Mastropieri et al., 2005; Weiss, 2004). Another reported concern about fidelity is the continuation of learned practices; general education teachers sometimes do not maintain the high levels of general education teacher contact time and accommodations for students with special needs in the absence of the special education teacher (Mastropieri et al., 2005).

Also listed in the limitations of co-teaching is the collection of ambiguous data surrounding student achievement in co-taught settings (Fontana, 2005). Countless publications provided technical guides for co-teaching, but few provided data reflecting student growth in co-teaching settings (Welch et al., 1999). In a meta-analysis of co-teaching research, Murawski and Swanson (2001) found that although proponents claim great student benefits of co-teaching, researchers usually found little to no data-based evidence. Some studies produced data suggesting student benefits, but most noted that the increases in student performance were not statistically significant (Kloo & Zigmond, 2008; Welch, 2000; Fontana, 2005). Other studies found that students in co-teaching settings improved their grades but their performance on summative yearly assessments
was comparable to those of students in control groups (Kloo & Zigmond, 2008). Some studies reflected growth for non-disabled students but not for the subgroups of “at-risk” students or students with learning disabilities (Saint-Laurent, Dionne, Giasson, Royer, Simard, & Pierard, 1998). Studies that did find student achievement data significantly increasing were limited in their validity in that they were often quasi-experimental, had few participants, and had many variables (i.e. teacher skill level, class size, administration support) that may have interfered with the applicability of the study to similar co-teaching settings (Welch et al., 1999).

Student preference for co-teaching versus pull-out services is another area where philosophy and data do not consistently match. While proponents and studies of co-teaching assert that keeping students in the general education setting help lessen the stigmatization of having a learning disability, other studies have found that students prefer the pull-out model to push-in (Le Mare & de la Ronde, 2000). Some special educators worry that although the quality of instruction is high in a general education classroom, the level of intensity and other elements distinctive to a specialized education may be missing (Baker, 1995). Student reflections and surveys mirrored this concern; students saw the special education classroom as a place where they were more successful at schoolwork and preferred the pull-out model over push-in services (Le Mare & de la Ronde, 2000). Other studies contradict the former, such as the study by Dugan and Letterman (2008) comparing students’ assessments of co-taught and traditional classes, which showed no real difference in the attitudes toward the two types of courses.
Future Research

While the practice of co-teaching continues to gain popularity among special and general educators across the country, the research base supporting its use has not expanded in proportion (Murawski & Swanson, 2001). Nearly every author included in this review of the literature emphasized the need for research of co-teaching’s impact on students with disabilities to be completed before co-teaching is to be considered a valid model of support for students with special needs (Murawski & Swanson, 2001; Welch, 2000; Dugan & Letterman, 2008).

Current researchers have called for more extensive data reflecting co-teaching’s effect on student achievement (Murawski & Swanson, 2001; Welch, 2000; Dugan & Letterman, 2008). A vast majority of the data supporting the use of co-teaching describes its affective benefits, such as the student social impact or teacher experience with co-teaching, through qualitative studies, case studies, and anecdotal reports. Further, much of the literature outlined components and guides for implementation of co-teaching. Many included teacher reflections about experiences, but few delved into data that reflect student achievement in co-taught classrooms. In fact, in an analysis of 89 articles on co-teaching or similar practices, Murawski and Swanson (2001) found that only six contained sufficient quantitative data to be included in a meta-analysis of the research on student achievement.

A commonly reported challenge to research on co-teaching was the difficulty in assessing an instructional approach that had many interfering variables. Meta-analysis of co-teaching studies revealed that none of the studies analyzed reported measures of
treatment integrity, without which the studies are not true proof of co-teaching as a legitimate method of service delivery (Murawski & Swanson, 2001). Murawski and Swanson (2001) call for experimental research that quantitatively compares the academic performance of students in co-taught settings with students in traditionally taught control groups.

Co-teaching appears to be a promising model of support for students with special needs, their teachers, and their peers. While research demonstrates mixed effects on student achievement, current classroom demographics and desired inclusive practices warrant further exploration in the field of co-teaching. Of particular importance is the impact of co-teaching on both the academic and social growth of students with special needs.
Chapter 3

METHODS

Setting and Participants

This action research study evaluated multiple elements, including student reading scores, teacher reflections, and logs of time spent in different modes of teaching, associated with co-teaching methods in a selected fifth grade classroom. This study collected data from students at one elementary school in an urban school district in Sacramento, California. The Kindergarten through sixth grade school’s demographics were diverse: 23.2% of students identified themselves as Asian; 25.1% of students identified themselves as Black; 21.7% of students identified themselves as Latino; 29% identified themselves as White. Over half of the student population qualified for free or reduced meals, and one third of students at this school were English Language Learners.

The student participants for this study receiving the co-teaching treatment included thirty fifth grade students enrolled in one fifth grade class. The students were already assigned to the class before the conception of this study, which made a random sampling impossible. The class for this study was chosen based on its inclusion of eight students with special needs and one student considered “at risk” for retention or remediation. Of the eight students with disabilities, six had specific learning disabilities, one had autism, and one had a severe delay of language. The student considered “at risk” had previously been considered for participation in special education programs. A second class did not receive treatment but was used for comparison of reading fluency and comprehension scores. In the comparison class, there were thirty students, one of whom
was identified with a learning disability, one was identified as emotionally disturbed, and three were considered “at risk” for retention or remediation.

The adult participants of this study included two special education teachers and one general education teacher. The level of experience of these teachers ranged from 4 years to 25 years, with an average of 10.25 years. These teachers collected student data as well as reflected on the process of co-teaching through interviews and journal entries. Data was gathered and analyzed by one of the special education teachers, who was also the researcher for this study. The teachers were assigned identifying numbers to maintain confidentiality as follows: Teacher One: special education teacher and researcher; Teacher Two special education teacher; Teacher Three general education teacher.

Procedures

For this quasi-experimental, action research study, students in the focus class experienced co-teaching during science, social science, and guided reading instruction, for a total of ninety minutes per day. Pre- and post-reading fluency data were collected for all students enrolled in both the treatment and comparison classes. There were 110 days available to co-teach during the study’s timeframe; 93 days were utilized. There were 17 days of the study during which co-teaching was not possible, due to field trips, teacher absences, or other unforeseen or uncontrollable circumstances. Depending on student need and preferred format for each lesson, the methods of co-teaching varied between the four types of co-teaching described in chapter one. Alternative teaching occurred when one teacher instructed the large group of students while the other taught a
small group of students, engaging them in pre-teaching, review, or guided practice. One teaching/one assisting was a technique during which one teacher assumed responsibility for leading the whole-group lesson, while the other teacher roamed the room, assisting students as needed. Parallel teaching occurred when both teachers planned and implemented lessons together but each took one half of the class for the simultaneous lesson. Team teaching took place when both teachers assumed lead roles in a whole-class lesson, taking turns in instructing the class together. Station teaching, when each teacher arranged a section of the classroom to be their instructing area and each delivered a different lesson to each group of students, who rotated through the stations, did not occur during this study, due to a team decision.

This study began with an introduction of the two special education co-teachers to the focus class. The class was told that any students may work with any teacher and that both teachers, when engaging in co-teaching, were to be considered their instructors. The special education co-teachers spent about one week establishing rapport with the students through the one teaching/one assisting model. The special education co-teachers then began assessing students on their pre-test DIBELS (Dynamic Indicators of Basic Early Literacy Skills) reading fluency and comprehension assessments (DIBELS Data Systems, 2008). Upon the culmination of testing, the special and general education co-teachers began co-teaching the focus class for the duration of the study. The co-teachers continued to meet at least once a week to plan and problem-solve and logged their experiences throughout the duration of the study.
The researcher did not feel prescribing one type of co-teaching was a reasonable expectation for the study. While having only one method may delineate more succinct connections between methodologies and student outcomes, it would have limited the effectiveness of the co-teaching model, which requires fluidity of teacher roles and supports (Welch, 2000). The roles of each co-teacher were to be as equal and flexible as possible. Teacher participants were encouraged to discuss their participation during each weekly meeting. The intent of the intervention was to maximize the potential expertise of each co-teacher: the general education teacher could share expertise of fifth grade curriculum while the special education teacher could share knowledge of accommodating and modifying curriculum to make it accessible to all students.

Special education interventions and curriculum, such as Houghton Mifflin’s SOAR to Success (2001), were used during the co-teaching periods. The participating teachers utilized curriculum accessible to the whole school, including the district-adopted fifth grade curriculum for science, Scott Foresman, Pearson Publishing 2008; the district-adopted fifth grade curriculum for social science, Scott Foresman, Pearson Publishing 2008; multi-media supplements from the library media center; and leveled reading books from the school book room. The comparison class did not receive co-taught instruction. However, the teacher from the comparison class sometimes utilized the abovementioned special education academic intervention materials and consulted with both of the special education teachers about student concerns or concerns over the use of the intervention materials.
The co-teachers met each week to plan for their co-teaching lessons. No time limit or minimum was assigned to these meetings; however, the participants were required to meet once a week to plan their co-teaching. Part of the data collected included the amount of time the teachers met to plan for and review their co-teaching. Since this was an action research study, the design allowed for the modification of the intervention based on results of data collected during the experiment. Therefore, the participants in this study sometimes chose to make changes to the co-teaching model that they predicted would improve student performance.

**Data Collection Procedures**

Independent variables for this study included the amount of time co-teachers spent each week on planning and the amount of time spent in each of the five co-teaching methods. Dependent variables were student performance on reading fluency and comprehension assessments.

Data collected during this study was done with an emphasis on anonymity; student and teacher names were replaced with numbers and letters. Data collected included teacher interviews and reflective logs, data on the use of each of the five types of co-teaching, weekly meeting duration data, and student assessment scores.

The researcher maintained logs of the time utilized each week by the participating teachers to collaborate, problem solve, and plan for their co-teaching. The researcher also logged the amount of time the co-teachers used in each model of co-teaching each day. The participating teachers were asked to complete a weekly memo reflecting on their co-teaching experience. The teacher memos were free-form; the researcher requested that the
participating teachers write in their memo journals each time they had a comment, concern, or inspiration about the co-teaching process. The memo documented the successes and failures of the co-teaching experiment, and participating teachers were encouraged to use the memo as a point of discussion at the weekly meetings. However, when the entries were too personal, the memo remained a private reflection tool and was collected only at the end of the study. Lastly, teachers participated in an interview about their experience at the end of the study. The interview consisted of general, open-ended questions soliciting reflection on the teachers’ experiences as well as those she perceived the students had. The questions were semi-structured in order to uncover the participating teachers’ perceptions of the co-teaching process as well as allow the individual participants to respond in a variety of ways. Discussion of student reading fluency and comprehension scores was encouraged as well as next steps for future implementation of co-teaching. No time restrictions were placed on the duration of the interviews, and the researcher allowed participating teachers to add any other input they felt was useful at the end of the interview. A neutral professional asked Teacher One, the researcher, the questions, and her interview was recorded and transcribed. Teacher Two preferred to not have her interview recorded, so she responded initially in written form, then the researcher interviewed her and took extensive notes. Teacher Three’s interview was tape recorded and transcribed.

Student pre- and post- test scores obtained at the beginning of the study and the end of the study six months later provided data on students’ reading fluency and comprehension scores from DIBELS assessments. DIBELS assessments were appropriate
for this study and for use in diverse classrooms because they were often more sensitive measures of student growth than grade level assessments. The focus class of this study had several students with special needs functioning one to three and a half years below grade level. DIBELS assessments helped demonstrate growth in the students’ abilities to read accurately and quickly (fluency) as well as summarize the things they read (comprehension). The assessments were one-on-one with a student and teacher and include verbal interactions, during which many of the students who struggle with grade level curriculum seemed to be more successful.

Analysis of Data

Student achievement data regarding reading fluency and oral retell fluency scores were analyzed using inferential statistics. After collecting pre- and post- scores from the treatment and comparison classes, the researcher conducted a one-way analysis of covariance to examine the performance of the two groups, after adjusting for any initial differences in pre-test scores. The researcher used a t-test to conclude if the changes in student data regarding reading fluency and oral retell scores were statistically significant. Student achievement data were also analyzed to compare the pre- and post- test reading fluency and comprehension scores of students with identified learning disabilities and students without identified learning disabilities within the treatment class. The student achievement data were put onto graphs and tables as a means of organizing and visually depicting the findings. The researcher compared the mean amount of growth in reading fluency scores to the suggested amount of growth defined in the DIBELS assessments.
Logs of time spent planning for co-teaching were condensed into tables and graphs. Any trends in planning time changes were noted and cross-checked against the teacher memos to examine the impact of planning time on teacher reflections about co-teaching. The logs of time spent in each method of co-teaching were also put into tables and graphs. An overall average was determined for each method of co-teaching, and the most commonly and least commonly used forms of co-teaching were identified and discussed. When compiling the data on time spent in each method of co-teaching, the researcher noticed a trend in the data changing over time; for that reason, the researcher split the research period into halves and calculated an average for the first and second halves of the study. Reflections documented in the teacher memos about the methods of co-teaching were noted in the final analysis of co-teaching method data.

Data collected surrounding teacher experience with co-teaching included the teacher memos and final teacher interview. The researcher coded each memo and interview for themes, determining initial emerging categories. Then, the researcher reviewed the transcripts and memos again and coded for the identified themes. The researcher then used constant comparison methods to give further depth and meaning to the categories and connect the findings from each participating teacher (Creswell, 2005). For interview data, matrices documenting the findings for each question were created. Each question also had a narrative describing the findings, most common themes, and giving example quotes from the teachers. The researcher finally compared and contrasted each interview and memo in order to give further depth and meaning to the categories and connect the findings from each participating teacher.
Chapter 4

FINDINGS

The data collected in this study sought to answer and explore the following questions:

1) How did co-teaching impact the reading fluency and oral retell scores of fifth grade students with and without identified learning disabilities?

2) How much time did participating teachers spend planning for co-teaching?

3) How much time was spent in each of the co-teaching formats?

4) What were teachers’ impressions of co-teaching and its impact on daily instruction for students with and without disabilities?

While there are many aspects of co-teaching worthy of exploration, the primary focus of this study was to answer the first question, to examine the impact of co-teaching on academic achievement for students with and without disabilities. The other questions asked are useful in determining what co-teaching looks like in practice, as there is presently limited research on these elements as well.

Several types of data were collected from this study. In order of discussion, they were: student achievement data, logs of time spent planning and collaborating for co-teaching, logs of time spent in each type of co-teaching model, and qualitative data drawn from teacher memos and interviews about the co-teaching experience. This data was collected over a six month period of time (November 2008 to April 2009). The researcher maintained student and teacher participant anonymity during the data collection and analysis process.
A few noteworthy occurrences took place during the study and affected the data collection process. The class receiving the co-teaching treatment had four students move out of the school during the study; three of these students were of particular interest to the study, as they were students with identified learning disabilities. The comparison class also had two students leave the school, one of whom was considered at risk for retention or remediation. The teacher of the comparison class had an unexpected serious illness and was absent for four weeks of the study during which time a former student teacher of hers assumed daily teaching duties. The general education teacher participating in co-teaching reportedly lost four weeks of her reflective memos on co-teaching, and upon discovering the loss, she made a summary list of the main points she remembered reflecting.

Student Achievement Data

Two dependent variables were used to determine the impact of co-teaching on the participating fifth grade class: reading fluency and oral retell fluency. Both the treatment and comparison classes were assessed by the participating teachers using DIBELS assessment tools. For each assessment, pre and post, each student was asked to read three different fifth grade level passages as accurately and quickly as he or she could for one minute. The assessing teacher would mark each incorrect word and subtract the incorrect words from the total of words read, providing a calculation of total correct words read per minute. The assessing teacher would then ask the student to retell what he or she remembered from the passage. The assessing teacher tallied each word the student spoke about the story, omitting unrelated information or misinformation; the total words retold about the story were tallied. This was completed for each of the three passages. The
assessing teacher then found the mean of the three reading fluency and oral retell scores. These mean scores were rounded to the nearest whole number and recorded for each student.

The researcher completed simple statistical calculations for each set of data, finding the pretest and posttest means, the mean amount of growth, and the percentage of improvement for the treatment class, the cadre of students with learning disabilities included in the treatment class, and the comparison class. (Refer to Table 1.)

The treatment class had a mean pre-test reading fluency score of 105.2 words per minute and a range of 7 to 166 words per minute. The post test reading fluency mean score for the treatment class increased 8.99 words per minute to 114.19 words per minute. The mean amount of growth for each student was 4.19 words per minute. The difference between the growth of the mean class scores for pre and post assessments, 8.99 words per minute, and the mean amount of growth for each student, 4.19 words per minute, is reflective of inconsistent growth for each student. In fact, while 16 out of the 26 students who took the reading fluency post test demonstrated growth, one made no change, and nine showed regression in their reading fluency. According to the DIBELS assessment materials, the typical amount of growth demonstrated by students in fifth grade is 20 words per minute over the school year (DIBELS Data Systems, 2008). 3 of the 26 students included in the post assessments made a growth of 20 or more words per minute.
Table 1. Student Achievement Mean Score Data

<table>
<thead>
<tr>
<th></th>
<th>Pretest (words per minute)</th>
<th>Posttest (words per minute)</th>
<th>Average Gain (words per minute)</th>
<th>% Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment Class (n=26)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Fluency</td>
<td>105.20</td>
<td>114.19</td>
<td>4.19</td>
<td>8.54</td>
</tr>
<tr>
<td>Oral Retell</td>
<td>36.80</td>
<td>41.19</td>
<td>0.08</td>
<td>11.93</td>
</tr>
<tr>
<td><strong>Students with LD in</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Class (n=3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Fluency</td>
<td>52.67</td>
<td>55.00</td>
<td>2.33</td>
<td>4.40</td>
</tr>
<tr>
<td>Oral Retell</td>
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<td>25.67</td>
<td>4.00</td>
<td>18.44</td>
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<tr>
<td><strong>Comparison Class (n=28)</strong></td>
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</tr>
<tr>
<td>Reading Fluency</td>
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<td>130.54</td>
<td>6.75</td>
<td>5.81</td>
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<tr>
<td>Oral Retell</td>
<td>38.00</td>
<td>38.39</td>
<td>0.21</td>
<td>1.03</td>
</tr>
</tbody>
</table>

The treatment class had a mean pre-test oral retell score of 36.8 words with a range of 3 to 87 words. The post test oral retell fluency mean score for the treatment class increased 4.39 words per minute, to 41.19 words per minute. The mean amount of growth for each student’s oral retell fluency was 0.08 words per minute. While the class as a whole made an improvement to its oral retell fluency mean score, the growth for each student, again, was inconsistent: fourteen students made improvements, while twelve students regressed. DIBELS does not provide guidelines for the rate of oral retell score.
growth expected for fifth grade students, so no comparison is available (DIBELS Data Systems, 2008).

The comparison class had a mean pre-test reading fluency score of 123.37 words per minute and a range of 60 to 198 words per minute. The post test reading fluency mean score for the comparison class increased 7.17 words per minute to 130.54 words per minute. The mean amount of growth for each student was 6.75 words per minute. 21 of the students who participated in the reading fluency post assessment made growth, two demonstrated no change, and five showed some regression of reading fluency skills. 3 of the 28 comparison class students included in the post assessments made a growth of 20 or more words per minute, meeting the guidelines suggested in the DIBELS assessment materials (DIBELS Data Systems, 2008).

The comparison class had a mean pre-test oral retell score of 38 words with a range of 11 to 83 words. The post test oral retell fluency mean score for the comparison class increased 0.39 words per minute to 38.39 words per minute. The mean amount of growth for each student’s oral retell fluency was 0.21 words per minute. The comparison class also experienced inconsistent growth in oral retell scores: 16 students made growth, one showed no change, and ten made regressions.

This study was also designed to examine the influence of co-teaching on the academic achievement of students with and without identified learning disabilities. Within the treatment class were six students with identified learning disabilities, three of whom left the school and did not participate in post assessments. The first of the three remaining students with an identified learning disability showed a minor loss of two
words per minute on her reading fluency score, moving from 48 to 46 words per minute. This student made a six word per minute increase in her oral retell score, increasing from 34 to 40 words per minute. The second of the post-tested students with an identified learning disability demonstrated a loss in both reading fluency and oral retell fluency, regressing eight words per minute on his reading fluency, 103 to 95 words per minute, and 11 words per minute on his oral retell fluency, 28 to 17 words per minute. The third student with an identified learning disability demonstrated a 17 word per minute gain in both reading fluency and oral retell fluency. A paired \( t \) test was conducted to compare the reading fluency growth, measured in words per minute, made by the three students with learning disabilities (\( M=2.33, \ SD=13.05 \)) to that of the students without learning disabilities (\( M=4.43, \ SD=13.22 \)). The \( t \) test, \( t(2) = 1.4923, \ p= 0.27 \) demonstrated a difference that is not clinically significant for the reading fluency growth of the students with learning disabilities as compared to the growth of the rest of the class. Similarly, another \( t \) test, \( t(2)= 0.9414, \ p=0.45 \) showed no significant difference between the three students’ growth on the oral retell fluency assessment (\( M=4.00, \ SD=14.11 \)) and the treatment class’ growth on the oral retell fluency (\( M=-0.43, \ SD=16.71 \)), even though descriptive statistics revealed a 18.44% gain in oral retell fluency scores for the students with learning disabilities.

The researcher used a \( t \) test to conclude if the changes in student data regarding reading fluency and oral retell scores from the treatment and comparison classes were statistically significant. The \( t \) test, \( t(25)= 0.9518, \ p= 0.3503 \), conducted on the reading fluency words per minute growth made by the treatment class (\( M=4.19, \ SD=12.96 \)) and
the amounts of growth made by the comparison class (M=6.75, SD=9.94) on the reading fluency assessment revealed that there was not a statistical difference between the growth of the two classes. Similarly, the \( t \) test, \( t(25) = 0.1209, p = 0.9047 \), comparing the oral retell growth of the treatment class (M=0.08, SD=16.24) and comparison class (M=0.21, SD=10.28) demonstrated no statistical difference.

Planning and Collaboration Time Logs

The teachers participating in the study were asked to meet weekly to plan for, collaborate about, and reflect on their co-teaching experience and to document the total minutes spent in these meetings each week. The time frame for these weekly meetings was not specified so that data could be collected on the amount of time the co-teaching team dedicated to meeting over the course of the study. There were 22 weeks included in the study; the team met 19 of these 22 weeks, averaging 28.41 minutes per meeting. The meeting times ranged from 15 to 60 minutes. (Refer to Figure 1.)

The team had several opportunities to meet during each week: before school, during lunch, after school, during class, and during student late-start Wednesdays, when each grade level held its weekly grade level meeting. The participating teachers did not choose to meet before school, met 5% after school, 15% during class, 17% at lunch, and 63% during student late-start Wednesdays.
The researcher compared any notable changes in the amount of time spent in the collaboration and planning meetings with the dated entries in each participating teacher’s memos. During the weeks with the fewest minutes spent meeting (0 to 20 minutes), the teachers also had the shortest or missing memo entries. Another connection revealed that memos reflecting mostly negative feedback about the co-teaching process occurred most often during weeks with the fewest minutes spent meeting. The memo entries during the first six weeks of the study showed all three teachers reporting concerns that co-teaching would require too much of their planning time. In the post interviews, however, each teacher reflected a desired to have met more often and communicated more effectively at these meetings.
Co-teaching Model Time Logs

After each co-teaching session, one of the teachers was asked to tally which of the five models of co-teaching was predominately used during the session. The tally sheets were maintained for two or three weeks, then collected and totaled, in order to uncover any trends in the time spent utilizing each model. At the end of the study, the tallies were totaled and percentages reflecting the use of each model were computed. (Refer to Table 2.)

Table 2. Percentage of Co-teaching Time Spent in Each Model of Co-teaching

<table>
<thead>
<tr>
<th>Model</th>
<th>First 11 Weeks</th>
<th>Second 11 Weeks</th>
<th>Summative Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Teaching</td>
<td>50%</td>
<td>84%</td>
<td>67%</td>
</tr>
<tr>
<td>One Teaching/ One Assisting</td>
<td>36%</td>
<td>12%</td>
<td>24%</td>
</tr>
<tr>
<td>Parallel Teaching</td>
<td>&lt;2%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Station Teaching</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Team Teaching</td>
<td>12%</td>
<td>4%</td>
<td>8%</td>
</tr>
</tbody>
</table>

The trend demonstrated over time was a decrease in diverse model usage and an increase in the use of alternative teaching, most drastically demonstrated by examining the usage of each model during the first eleven weeks compared to the usage during the second eleven weeks.

The team had agreed that Station Teaching was not liked by all participating teachers and would not be utilized during the study. Parallel Teaching was attempted but not frequently utilized, averaging only one percent of co-teaching sessions. Similarly,
Team Teaching was utilized during 12 percent of occurrences for the first 11 weeks but declined to only four percent utilization during the second 11 weeks, averaging eight percent of the total time spent co-teaching. One Teaching/One Assisting was used 36 percent of the opportunities during the first 11 weeks of the study; however, its use declined as well, to twelve percent during the final 11 weeks. Alternative Teaching occurred most commonly for the duration of the study. Its use increased from fifty to eighty-four percent of co-teaching experiences over the first and second 11 weeks of the study.

The participating teachers’ memos and interviews provided data connecting to the increase in Alternative Teaching and decrease of the use of all other models of co-teaching. Teachers Two and Three reflected a desire to keep the classroom quiet and “under control” during the co-teaching sessions. Teachers Two and Three reported that the desire for quiet order in the classroom was a determining factor when choosing a model of co-teaching for each lesson. Also noted in each teacher’s memo was an acknowledgement that ease of use often determined which co-teaching model was used. All participating teachers reported feeling like Alternative Teaching was the easiest and most convenient model for use with the treatment class. Teacher Three reflected “Small groups are more central. We tried a lot of co-teaching ways, but I think we used what was easiest to use. We’re busy.” In addition, Teacher Three reported wanting to use One Teaching/One Assisting more often, so the students would not have to be pulled from the large group but could continue to receive help on more challenging assignments.
Teacher Memos and Interviews

From the inductive analysis, the final themes emerging from the data were: process of defining teacher roles and relationships, social impact of co-teaching on students with and without disabilities, academic impact of co-teaching on students with and without disabilities, and co-teaching with fidelity. For each question, the researcher created a narrative describing the findings, themes, and most significant quotes from the teachers. Each of these themes will be described in detail below. As defined in the previous chapter, teachers were assigned numbers as follows: Teacher One was a special education teacher and the researcher; Teacher Two was a special education teacher; Teacher Three was a general education teacher.

The Process of Defining Teacher Roles and Relationships

All three of the teachers interviewed reflected some confusion surrounding the roles of each teacher in the co-teaching process. While the co-teaching process was researched and reviewed by the team before the study began, the teachers reported experiencing a time at the beginning of the study during which they struggled to develop classroom roles and professional relationships. Teacher One reported feeling like the co-teachers “wasted a lot of time because we were awkward working together and didn’t know each other’s boundaries, or especially each other’s roles.” The two special education teachers, Teachers One and Two, reported feeling that the general education teacher was ultimately in control of the co-teaching lessons and that the special education teachers were not treated as though they had equal influence over the lessons or the ownership of the class. In a memo, Teacher Two reported a contrast between the
description of the co-teaching roles and the reality of those roles, noting that she felt like “an underprepared assistant.” Similarly, the general education teacher, Teacher Three, reflected that she perceived the special education teachers as “helpers” and that her role in collaborating was to inform the special education teachers of what she had planned for the week or assign them their duty for the co-teaching session, so they were able to help with but not plan the lessons. All three of the participating teachers reported that, in general, the special education teachers were assigned to the lower-performing students, mostly those receiving special education services, while the general education teacher lead the rest of the class in activities.

References to the roles and relationships of the co-teachers were the most common topic discussed in the teacher memos and interviews. In fact, all of the participating teachers reported feeling that the relationship between the co-teachers was the most decisive factor influencing the success or failure of co-teaching. As Teacher One reported in her interview:

I really learned just how much co-teaching depends on the relationship between the two teachers. I didn’t always feel respected by the gen ed teacher, and she didn’t share the passion for co-teaching, so she often dismissed our efforts. It was disappointing that simple working relationships could affect the teaching process so much, despite good efforts.

Teacher Two noted that in order for co-teaching to be “beneficial and useful,” she needed to have “a co-teaching partner who has an interest in targeting a specific group of students, sharing the instructional responsibility, and has a common belief to improve
academic success of the students we are targeting.” Teacher Three elaborated on the need for a strong co-teaching partnership, reflecting that if she did not have faith in her partner’s teaching abilities, she would not be willing to allow that teacher to share instructional responsibilities.

Social Impact of Co-Teaching on Students with and without Disabilities

The participating teachers shared very similar reflections about the social impact of push-in, co-teaching methods on students with disabilities; all teachers reflected observing benefits and drawbacks to co-teaching. One aspect discussed by all three teachers was the presence of special educators in the general education classroom. The general education teacher, Teacher Three, stated that the students did not “feel that stigma of the special education teacher” when the special education teachers were in the classroom all the time. The special education teachers, Teachers One and Two, reflected that they felt they were making special education seem less mysterious and stigmatized for all students.

All of the teachers noted the potential of having extra help embarrass or isolate the students with learning disabilities. Teacher One reflected that she continually made contact with all types of students to avoid being “tied” to certain students but that the progression towards mainly utilizing the Alternative Teaching model meant that the students “tied” to her ended up working with her in small groups anyway. Teacher Three reflected that she felt progressively less concerned over the stigma the students would have if they received help from special education teachers in the presence of their non-disabled peers: “The stigma is inevitable for kids who get extra help. I think that’s just
gonna happen. I don’t know how to get around it. It will be the same kids, and you can
tell who the kids are by how they do in class every day.”

The teachers reflected that allowing the students with special needs to stay inside
the classroom resulted in fewer disruptions to the students’ days and allowed the students
to keep up with the curriculum and events of the classroom. As Teacher Two noted,
“Students with disabilities loved the co-teaching experience. It was an honor for them to
do the same work as their peers, participate in class discussions, and have multiple
teachers who care about them in their room.”

**Academic Impact of Co-Teaching on Students with and without Disabilities**

However diverse the responses from the participating teachers about the academic
impact of co-teaching on all students, the responses were all unified in their presentation:
much of the perceived positive academic impact of co-teaching focused on the
empowerment and inclusion of the students with identified learning disabilities, while the
perceived negative or neutral impact was related to the academic growth of all students.

The special education teachers, Teachers One and Two, responded with positive
reflections on the growth in academic participation and confidence of students with
identified learning disabilities. Both special education teachers reflected that their
presence in the general education classroom helped teach students to navigate their
classrooms and to use classroom participation strategies to work with their disabilities.
Teacher Two reported, “There were students who couldn’t read raising their hands to
read or answer questions—very powerful.” In contrast, the general education teacher
reported that although she saw the students with learning disabilities practicing their
classroom participation strategies while the special education teachers were present, she noticed these students would not independently use these skills. Additionally, the general education teacher questioned whether or not the availability of “extra help” at points throughout the day made the students demonstrate learned helplessness. The general education teacher did, however, make mention that she appreciated that the students receiving RSP support were in her classroom at all times and did not miss any of the grade level curriculum: “When [the students] push out, it’s harder for them to catch up with everything…It certainly eases your mind a little bit to think they’re still getting it. I understand it may take them a few more minutes longer in the lesson.”

All of the participating teachers reflected feeling that student growth in response to co-teaching was inconsistent. Before learning the results of the post study assessments, the teachers projected little to no growth would be shown in the students’ posttest reading fluency and oral retell fluency scores. After examining the scores, the participating teachers reflected feeling disappointed, and a divide was evident in the reasons the teachers attributed to this lack of student academic growth. The general education teacher repeatedly reported in her memos and interview that the presence of another teacher or learning group inside her classroom was distracting for her and her students. The general education teacher also mentioned that while she appreciated having help available for students, she did not “think it truly affects other kids; the people who are gonna work are gonna work whether [the special education teachers] are in here or not.” The special education teachers offered a different explanation for the limited academic impact reflected by the posttest scores; they repeatedly mentioned their frustration with a lack of
commitment to the co-teaching process by the general education teacher, which manifested as too little time spent planning and too little effort going into the co-teaching lessons by her. One special education teacher also reported concerns that pull-out methods of support may have been more efficient and effective in developing student academic skills: “If the [general education] teacher is not as devoted as [the special education teachers] are to catching these kids [with disabilities] up, then it makes you wonder if they would have been better off in RSP in small groups all along.”

Co-Teaching with Fidelity

The teachers participating in this study had an opportunity to review research describing the elements and impacts of successful co-teaching so that they could operate with a basis of understanding during the study. Throughout the course of the study, each of the participating teachers compared what she had learned from the co-teaching research with her daily application of co-teaching. Each teacher reflected some concerns about the fidelity of the study’s co-teaching methods. The two main areas of concern mentioned were the effective use of planning time and the effective implementation of co-taught lessons.

The participating teachers met each week for an average of 28.41 minutes (Refer to Figure 1). These meetings were designed to plan for and reflect on the co-teaching process, but the teacher memos reflect that many times these meetings were used to discuss non-related concerns or specific student concerns. Another issue reflected in the teacher memos was the inconsistent meeting attendance of all co-teachers. Some meetings would be impacted by school site-required meetings, and on those weeks, the
team rescheduled or canceled their meeting times. In general, if a teacher missed a co-teaching meeting, her partner teachers reflected feeling as though the missing teacher did not respect the co-teaching process. The teachers uniformly responded that co-teaching would have been more successful if they had held more frequent and more effective co-teaching meetings. A final concern with the co-teaching meetings revealed that lesson plans made during co-teaching planning times were not always upheld. The general education teacher, Teacher Three, reflected on changing her plans without informing her co-teaching partners: “Just letting [the special education teachers] know where we are, helps the [special education teachers] be more efficient so they don’t have to ask me. I just think I expect them to know; that’s just a…ignorance of mine.”

The participating teachers shared concerns that the reality of their co-teaching sessions each day was not always inline with the co-teaching research. Teacher One commented:

In the beginning, we also used a better variety of co-teaching methods and used planning time better. Because I think we were not seeing jump-out-at-you results, I think we started to give up a little; we fell into the routine of what was most convenient and certainly did not plan as much as we should have towards the end. We winged it, and we wouldn’t have if we had [pull-out] groups.

Teacher Three made mention that the co-teaching sessions were often impacted by a change in student behavior in the presence of the special education teachers. She reported noticing that the students became more talkative with the special education teachers and less focused on their classroom tasks. Teachers One and Two also reflected that although
they considered themselves as sharing equal instructional responsibility and leadership with the general education teacher, they felt as if she made the final decisions impacting their co-teaching sessions. Teacher Two reflected, “We’d have great lessons prepped and ready and would be turned down. We felt like the [general education] teacher always made the ultimate decisions, and the kids saw that.”

Having both qualitative and quantitative data helped give depth to the exploration of co-teaching’s effects on the reading scores of fifth graders in a co-taught classroom. The data also provided some insight into the experiences of the participating teachers. The implications of these findings will be discussed in the following chapter.
Chapter 5

DISCUSSION AND RECOMMENDATIONS

This action research study sought to examine the impact, strengths, benefits, and limitations of the co-teaching model utilized by two special educators and one general educator in a fifth grade class over a six month timeframe. The study had several research questions addressed through qualitative and quantitative data collection:

1) How did co-teaching impact the reading fluency and oral retell scores of fifth grade students with and without identified learning disabilities?

2) How much time did participating teachers spend planning for co-teaching?

3) How much time was spent in each of the co-teaching formats?

4) What were teachers’ impressions of co-teaching and its impact on daily instruction for students with and without disabilities?

Data collected included student reading fluency scores, logs of time spent planning, logs of time spent in each co-teaching model, reflective memos completed by participating teachers collected over a six month period, and summative teacher interviews.

Discussion

It is necessary to reflect on some of the limitations associated with this study when considering its results and implications. This study was completed over a relatively short period of time with a small sample of students, not chosen randomly for the study, but included based on their being assigned to the treatment classroom. Due to the small sample size and short time frame, one must be careful when applying the results of this study to another school setting. The treatment class was selected from three available
fifth grade classrooms because there were eight students with learning disabilities assigned to this class before the conception of the study. These students’ inclusion made a method like co-teaching appealing because there were many students to reach at one time with this service delivery model. However, the study could have been strengthened by the use of a control group or matched comparison groups. The current action research study attempted to use methodologies naturally present in the classroom setting, such as the DIBELS assessments. Because DIBELS may not be a sensitive measure of growth for students performing two or more years below grade level, student achievement data may not reflect the actual growth these students made. The collaboration time recorded for the study was not consistently used to the study’s intended extent; not all of the participating teachers attended the entirety of all meetings, and the meeting topics were not consistently related to co-teaching. As noted in chapter 3, the special educators made alternative curriculum available for the co-taught groups. This curriculum was not commonly utilized during the groups, however, and its use would have been part of maximizing the benefits of having a special educator working in a general education classroom. A final limitation to the study developed when two of the students with learning disabilities included in the treatment class moved from the school campus before the completion of the study and of the post assessments.

Despite the presence of these limitations, the findings from this study are worthy of discussion and correlate with findings reflected in the literature on co-teaching. The findings will be discussed as they relate to each of the four research questions.
Impact on Reading Fluency and Oral Retell Scores

As was commonly reported in studies examining the academic impact of co-teaching, this study found no changes in student DIBELS reading scores to be statistically significant (Kloo & Zigmond, 2008; Welch, 2000; Fontana, 2005). Comparisons between the treatment class, the students with learning disabilities within the treatment class, and the comparison class also reflected no results of clinical significance. Of particular interest is the inconsistent growth demonstrated by many students in the treatment and comparison classes; where one student may have made a 17 word gain, another student may have regressed in equal proportion. Another interesting comparison took place between the DIBELS suggested amount of growth in reading fluency and the students’ actual amounts of growth. Only six of the 54 students included in the study made the 20 word improvement to their reading fluency suggested in the DIBELS materials. These inconsistencies in the data may warrant an examination of the reading curriculum and instructional methods used for these classes. These inconsistencies in the data for the co-taught class also aligned with some of the published co-teaching research and suggest the need for further studies demonstrating significant academic impacts resulting from co-teaching (Saint-Laurent, Dionne, Giasson, Royer, Simard, & Pierard, 1998; Kloo & Zigmond, 2008).

While the improvements in student mean reading fluency scores did not show statistically significant differences between the treatment and comparison classes, the data highlights some important items. The composition of the treatment class was designed with more students with learning disabilities than in the comparison class. The
difference in class compositions is demonstrated in the pretest class means. In reading fluency, the comparison class began the study with a mean score 18.17 words per minute higher than the treatment class. At the end of the study, the difference between the classes was 16.35 words per minute, suggesting that the treatment class slightly closed the gap between classes. The mean amount of individual student reading fluency growth for each class, however, does not reflect a superior amount of growth for the treatment class. The students in the treatment class improved an average of 4.19 words per minute while the students in the comparison class grew 6.75 words per minute. What needs to be considered is two-fold: several students in the treatment and comparison classes showed a regression in reading fluency, which negatively impacted the class mean growth amount; the percentage of improvement demonstrated by the treatment class is 2.73% higher than that demonstrated by the comparison class. Of concern is that the mean word per minute gain for the three students with learning disabilities in the treatment class is lower than that of both the treatment and comparison classes.

The growth related to oral retell fluency, while not found to be statistically significant, indicates greater improvement for students in the co-taught treatment class than in the comparison class. The oral retell pretest scores were nearly commensurate for the treatment and comparison classes; the comparison class scored 1.2 words per minute higher than the treatment class. However, posttest scores showed an 11.93% increase in mean scores for the treatment class and only a 1.03% increase for the comparison class. Of important note again is the mean amount of growth each student demonstrated. Because of student regressions, the treatment class only saw a mean improvement of 0.08
words per minute, when considering the word per minute growth of each student. The comparison class showed a mean improvement of 0.21 words per minute demonstrated by each student. The students with learning disabilities included in the treatment class showed an 18.44% increase in mean oral retell fluency scores; although t-tests found this improvement to be clinically insignificant, when compared to the treatment class overall 11.93% improvement, the students with disabilities showed a 6.51% higher rate of growth. One student with a disability included in the treatment class made a reading gain equivalent to improving her reading level by two years. At the beginning of the study, this student read at a Kindergarten level, and by the conclusion of the study, this student was reading early second grade books and felt very empowered by her growth.

The findings from this study provide minimal data supporting the assertion that co-teaching improves student academic achievement. These findings contradict studies like Fontana (2005), York-Barr et al., (2007), and Welch (2000), which reflected significant student academic improvements connected to co-teaching experiences. There are, however, several studies that concur that while co-teaching has potential benefits worth exploring, researchers usually found little to no data-based evidence (Murawski and Swanson, 2001). Like this study, some published studies demonstrated data suggesting student benefits, but most noted that the increases in student performance were not statistically significant (Kloo & Zigmond, 2008; Welch, 2000; Fontana, 2005). Aligned with the limitations of this study, Welch et al. (1999) reported that the studies demonstrating significant improvement in student achievement were limited in their validity because they were often quasi-experimental, had few participants, and had many
variables that may have interfered with the applicability of the study to similar co-teaching settings.

**Participating Teacher Collaboration Time**

This study recorded the actual amount of time the participating teachers spent in their co-teaching meetings, compared any significant changes in time spent with teacher memos, and analyzed teacher feedback about the meeting times. A concern teachers report about co-teaching is the commitment of time required for collaborating and planning with co-teaching partners (Mastropieri et al., 2005; Welch, 2000). The teachers participating in this study expressed concern about meetings taking too much time at the beginning of the study, while they expressed a desire to have met more often during the concluding interviews. In general, the teachers participating in the study did not lament having to meet weekly but shared a concern that the time they spent meeting was not utilized to the best extent. Murawski & Swanson (2001) found that co-teaching partners typically felt that they spent a large amount of time sorting through confusion as to what co-teaching looks like and how and when it is best used. The special education teachers in the current study noted that while the entire team would agree to lesson plans in the meetings, the reality of these lessons would not always materialize, as they perceived the general education teacher would have the final decision about classroom activities. This experience also parallels that of teachers in other research studies. Murawski & Swanson (2001) and Mastropieri et al. (2005) reported that the challenges to establish teacher roles often resulted in the general education teachers maintaining a leadership role while the special education teachers maintain support roles.
The mean amount of time the participating teachers of this study spent meeting was 28.41 minutes per week. In a similar study, Welch (2000) found that the average time teachers met per week was 30 minutes. It is important to note that some of the collaboration not accounted for in this current study was accomplished via emails, notes, and telephone calls, rather than during formal meetings. This current study did not account for these occurrences.

The Models of Co-Teaching

The current study calculated the percentage of co-teaching sessions utilizing each of the five co-teaching models and analyzed teacher feedback about the use of these models. The study found that the diversity of model usage decreased over time, replaced by an increase in the use of Alternative Teaching. During this Alternative Teaching, the general education teacher lead the majority of the class while the special education teachers helped a small group of students, including the eight with identified special needs, in a separate location in the classroom. The teachers participating in this study reported regretting not utilizing more diverse models of co-teaching and admitted that ease of use was their primary motivation when choosing a model. The discoveries surrounding co-teaching model usage from this study very much align with current co-teaching research. Murawski & Swanson (2001) and Mastropieri et al. (2005) found that teachers reverted to the traditional roles of the general education teacher leading the class, with the special education teacher creating a pull-out group of students housed in a general education classroom. Teacher memos and interviews from the current study reflect a general dissatisfaction among the special educators when stuck in the Alternative
Teaching model. Special education teachers from other research studies report similar experiences, feeling and acting more like paraprofessional classroom aides than equal partner teachers when in co-teaching situations (Kloo & Zigmond, 2008; Mastropieri et al., 2005).

Teacher Experiences and Impressions: The Impact of Co-Teaching on Students and Teachers

Analysis of teacher perceptions of the co-teaching experience yields a great deal of data. General trends in the analysis reveal that all participating teachers felt an initial excitement for co-teaching and recognized the potential and real benefits of a push in model. Presumably due to differences in teacher expectations and responsibilities, the data revealed a considerable difference in the reported experiences of the general education teacher when compared to those of the special education teachers. Overall, the teacher experiences and perceptions of co-teaching’s effects on students were aligned with current co-teaching research.

Participating teachers reflected an overall positive belief that co-teaching’s allowance for constant class attendance aided students in having better social experiences with their grade level peers. Other research studies confirm similar student perceptions. Le Mare & de la Ronde (2000) found that children with and without learning disabilities agreed that push-in services, such as co-teaching, provided better opportunities for students to make friends than pull-out services. Another study found that social competence and acceptance of students who have learning disabilities increased as a result of co-teaching experiences (Kloo & Zigmond, 2008). The focus of the current study was primarily on student academic growth, however, participating teachers
reflected on the social impacts of co-teaching on all students frequently in their memos. Participating teachers revealed their efforts to promote social experiences during the study’s co-teaching lessons, demonstrating the perceived importance of social experiences for all students. These findings remind teachers of the necessity to utilize and consider social experiences when designing lessons, teaching strategies, and especially service delivery models for students with special needs.

Receiving special education support inside the general education classroom had perceived academic skill benefits as well. Participating teachers asserted that co-teaching resulted in fewer student program disruptions and allowed the students with special needs to keep up with the curriculum and events of the classroom. The general education teacher shared that her anxiety about students falling behind due to pull-out group attendance was lowered due to co-teaching. In contrast, the special education teachers revealed worrying that co-teaching was not the most efficient use of time for students who would have otherwise received pull-out small group support. The contrast between the general education teacher and special education teachers’ concerns reflects the different vantage points held by each position. While general education teachers are required to expose kids to a certain curriculum at a certain pace, doing their best to keep all students proficient, special education teachers have the flexibility to modify their pace, ensuring student proficiency and backtracking to fill in any missing skills for each student. Being held to the pacing of a general education class seemed to frustrate the special education teachers, who reflected a desire for more thorough rather than broad learning. Some co-teaching studies acknowledged the difference in teacher vantage
points and asserted that effective co-teachers could maximize the benefits of these skill sets and perspectives by encouraging general educators to share their strong mastery of content while special educators share techniques and materials to make curriculum accessible to all (Welch, 2000; Mastropieri et al, 2005; Kloo & Zigmond, 2008). Limited student academic score growth resulting from this study produced a sense of ambivalence and disappointment in the participating teachers, again exposing a divide between the experience of the general and special education teachers. The general education teacher reflected low expectations for the impact of co-teaching on students without disabilities in the treatment class, possibly reflecting a belief that the special education teachers do not have equal roles when co-teaching but, instead, are only obligated to help the students with special needs. Adding to this sense of low expectation was the general education teacher’s expressed irritation with the extra noise and activity associated with having another teacher in her classroom, which she felt was a distraction to her students without disabilities. When reflecting on the growth made by the students with disabilities, the general education teacher praised the efforts of the special education teachers while admitting some concern that the presence of available help created a situation of learned helplessness among the students with special needs. In comparison, the special education teachers celebrated the increase in academic participation and confidence of students with identified learning disabilities. In their memos and interviews, the special educators seemed to focus less on content mastery and more on the acquisition of general classroom skills, such as seeking help, participating, and completing assignments. The difference in areas of focus for the special and general
educators is once again reflective of the difference between the two positions. The special education teachers expressed disappointment in the final academic outcome of the study, lamenting the occasional misuse of co-teaching session time and the lack of diversity in co-teaching model usage, but expressing an overall sense of hope for the use of co-teaching.

The summative interviews each included some celebrations, some regrets, and some hopes for future co-teaching experiences. Overall, the co-teachers perceived their experience as having struggled due to an unequal development of teacher roles, responsibilities, and relationships. Much of the available research acknowledged that co-teaching can upset the roles, consciously or subconsciously assigned, of the general and special educators (Welch, 2000; Kloo & Zigmond, 2008; Hourcade & Bauwens, 2001). In this study, while the teachers made attempts at exploring new roles, the typical general educator as lead teacher and special educator as support roles were maintained and reflected in the teacher memos. Frustration was expressed from the special education teachers, as their support-only role was often upheld through what they perceived as a lack of respect for their position or the last minute assignment of medial classroom tasks during would-be co-teaching sessions. As a result of the continual struggle for balance in the co-teaching partnerships, the fidelity and validity of use of co-teaching was commonly questioned by all participating teachers. All three of the teachers in this study reported that their interactions with their partner teachers, especially while planning and delivering lessons, were the most influential factors in determining co-teaching’s success.

The available research supports the teachers’ conclusions. As Mastropieri et al. (2005)
found, teacher compatibility of perspectives on instruction was so necessary that its absence negated the practice of co-teaching entirely.

Recommendations for Practice

This study holds several valid points of discussion surrounding the use of co-teaching to support students with special needs. While the student achievement data reflecting student reading fluency growth is considered clinically insignificant, the amount of growth shown by several students in the treatment group suggests that co-teaching is a valid methodology. Teachers considering co-teaching should initiate numerous sources of student achievement data and use this data to drive their planning and instruction during co-taught periods.

Teachers involved in co-teaching may consider the social and academic needs of each student before determining the methods of co-teaching to utilize in the general education setting. If a student does not want to be singled out in front of his non-disabled peers, for example, the co-teachers may not want to use alternative teaching. Teachers may also solicit student input in determining service delivery models; this element was lacking from the study and would have assisted the teachers in best serving each student by providing qualitative data on student experiences.

Because the study revealed many challenges associated with teacher roles and relationships, it suggests the need for on-going efforts to reflect upon, discuss, and modify teacher behaviors to ensure effective working relationships. Potential co-teachers would be wise to outline the expected behaviors and commitments of each teacher before beginning co-teaching.
Recommendations for Future Research

Given the assumption that the co-teacher relationship is the most important element determining co-teaching’s success, one could speculate that the findings in this study reflect more a lack of a professional chemistry between teachers than a limitation of the co-teaching model. Any future studies involving co-teaching would be remiss not to pair the study participants well and provide support for this partnership. Another study vital to the co-teaching research would involve an exploration of the necessary elements of a successful co-teaching partnership. An additional study related to co-teaching partnerships would examine the efficacy of special educators modeling accommodation and modification skills for general educators to use with all students.

The current study uncovered several other areas of needed exploration related to co-teaching. Further research should include investigation of the long term academic effects of co-teaching on students with and without disabilities, particularly noting whether or not the effects are maintained when students return to traditionally taught classrooms or if the maintenance of skills depends on the continuation of co-teaching support. Studies of co-teaching’s impact on student achievement should employ multiple measures for students to demonstrate growth. Research suggesting that co-teaching is superior to other service delivery models for students with special needs should present findings that rival those related to the other models of service delivery. Teachers and schools need to explore research on co-teaching before deciding to employ co-teaching as their method of service delivery.
Another area of exploration involves observing, interviewing, and analyzing the students with and without special needs in co-taught and traditional classrooms. Teachers often speculate which methods of service delivery students prefer, and it seems that often the actual preference depends on the student. However, collecting and organizing data on student experiences with service delivery models, even if research concludes that the decisions are highly personal for each student, will help inform teachers when they create schedules and plans for support each year. Part of a student study could also involve an investigation into the generalization of classroom skills learned through co-teaching experiences. A thorough student study would satisfy concerns exposed in this co-teaching study: Did co-teaching create learned helplessness, and were the kids dependent on the physical and verbal prompts from the special education teachers? Or did students generalize the skills practiced during co-teaching to times throughout the day?

The current study reflects the efforts of a team of educators dedicated to finding a service delivery model that thoroughly meets the academic, social, and personal needs of each student with special needs. While there were areas of needed growth exposed in this study, and while the study did not reveal any conclusive evidence that co-teaching is a superior model of service delivery, the experience of the study had a profound impact on the participants, who will spend each school year researching and exploring the best ways to meet the needs of all students.
APPENDIX

Participant Interview Questions
1. Overall, how would you describe your co-teaching experience?

2. In what ways is co-teaching an effective method of instruction for students with learning disabilities included in general education classrooms?

3. How does co-teaching affect your students without disabilities?

4. How do you feel about the planning and collaborating involved in the co-teaching process?

5. Given the choice, would you engage in co-teaching again? Why?

6. Reflect on the student outcomes we have seen.

7. How do you think students with learning disabilities feel about co-teaching? Which model, co-teaching or pull-out, do you think students prefer?

8. Share any other ideas, thoughts, concerns, or feedback.
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