HOW DOES THE CO-TEACHING MODEL INFLUENCE TEACHING AND LEARNING IN THE SECONDARY CLASSROOM

by

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SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION AT NORTHERN MICHIGAN UNIVERSITY

May 4, 2012

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DATE: May 5, 2012
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Abstract

In response to federal regulations requiring secondary students receive instruction with a highly qualified teacher, school districts are selecting co-teaching and inclusion as a service delivery option to assist students attain success in core curriculum courses. The purpose of this review was to investigate the influence co-teaching had on teaching and learning. The literature reviewed included articles describing effective practices and strategies related to administrative roles, together with studies analyzing data completed by teachers utilizing this instructional method and students receiving instruction in co-taught environments. Results and conclusions from the studies indicated administrative support greatly influenced the co-teaching experience along with a need for training and co-planning opportunities. Social and academic benefits were perceived as benefits by students. Recommendations for improving the influence of co-teaching on teachers and students included changing pre-service training programs, improving administration support, and creating additional studies addressing the lack of data supporting the effectiveness of co-teaching on academic achievement.
Chapter 1: Introduction

Special education and general education teachers are experiencing increased demands on how instruction is taught, increased content to be taught, and increased classroom populations containing more students with learning difficulties: all with limited available resources. Federal regulations No Child Left Behind (NCLB, 2001) and Individuals with Disabilities Act (IDEA, 2004) have affected how special education services are delivered to secondary students pursuing a high school diploma. These changes stem from the highly qualified requirement that “all public elementary and secondary education school teachers, including special education, bilingual education, and alternative education teachers who teach core academic subjects, must meet ‘highly qualified’ requirements the end of the 2005-2006 school year” (NCLB, 2001). Students with special needs are also affected by these increased demands due to the higher levels of expectations placed upon all students. School districts experience unique challenges when ensuring all students attain academic success while meeting the federal guidelines. The demands of providing instruction by a Highly Qualified Teacher is particularly challenging when meeting the needs of special education students at the secondary level. Co-teaching is thought to be a teaching methodology that can be implemented to ensure guidelines are met while still meeting the needs of all learners where two teachers collaborate to provide instruction to students. For co-teaching to be considered collaborative, designated criteria must be met. Cook and Friend (1995) defined interpersonal collaboration as “a style of direct interaction between at least two co-equal parties voluntarily engaged in shared decision making working toward a common goal.” (p. 2) While co-teaching has been implemented in many school districts to meet federal and state regulations, does this model of instruction provide a beneficial effect for students?
Background

In 2001, an additional education reform act known as No Child Left Behind stipulated additional regulations for providing educational services. The intent of NCLB was to improve student achievement and close achievement gaps (NCLB, 2001). NCLB implemented the Highly Qualified Teacher requirement for delivery of instruction in core curriculum classes. These regulations changed what special education looked like and how services should be provided to students with disabilities by mandating a free and appropriate public education for all students, regardless of any disability. Over 6 million students with special needs have received special education services since the federal government initiated these mandates (History of IDEA, 2000). Mainstreaming and inclusion of students with disabilities into general education settings became law and the process of providing special education services continues to evolve due to the federal government’s involvement and subsequent state requirements. Methods of instructional delivery other than direct instruction in a resource room by a special education teacher must be examined as special education is not a placement but a service.

A system of checks and balances was implemented in the form of Adequate Yearly Progress (AYP) to ensure that school districts followed the requirements of NCLB and IDEA (2004). Adequate Yearly Progress is used to track the success of Title I schools and districts in improving student achievement (MDE, 2011). Annual reports are submitted by individual school districts to ensure compliance on instructional quality and highly qualified instruction is delivered in core curriculum. These federal mandates and AYP requirements have caused a shift in how instruction is provided at the secondary level. School districts must ensure all students not only are provided instruction by a highly qualified teacher, but also meet the needs of students with special needs so all students in the classroom experience academic achievement. Co-
teaching or team teaching provides school districts the opportunity to meet both of these requirements.

**Focus of the Study**

Federal regulations NCLB (2001) and IDEA (2004) have affected how special education services are delivered to secondary students pursuing a high school diploma. These changes stem from the highly qualified requirement that “all public elementary and secondary education school teachers, including special education, bilingual education, and alternative education teachers who teach core academic subjects, must meet ‘highly qualified’ requirements the end of the 2005-2006 school year” (NCLB, 2001). Special education teachers in Michigan who meet the Highly Qualified Status are elementary certified teachers with an endorsement in special education assigned in an elementary classroom (MDE, 2005). Secondary special education teachers in Michigan who do not have an endorsement in core subjects cannot provide direct instruction in a core subject classroom. School districts must meet federal regulations which have limited the practice of special education teachers providing direct instruction in a resource room for students with disabilities.

School districts face challenges when determining how to meet the needs of a diverse population while meeting federal and state requirements. School districts meet student needs and ensure achievement while still meeting federal guidelines by “focusing on teachers working together with an assumption that collaboration leads to improved student academic achievement” (Brownell et al., 2006) Requirements aside, does co-teaching fulfill a purpose and does it have an effect on students who are placed in a classroom utilizing this teaching methodology? How does co-teaching effect the classroom teachers who are given the responsibility to provide instruction as a team in a co-taught classroom?
**Research Question**

How does the co-teaching model influence teaching and learning in secondary classrooms?

**Theoretical Framework**

When the five elements of the cooperative learning model are evaluated and compared to co-teaching, co-teaching can be viewed as an instructional model under Johnson and Johnson’s Cooperative Learning Theory (2009). The five elements of cooperative learning are clearly perceived positive interdependence, considerable promotive (face-to-face) interaction, clearly perceived individual accountability and personal responsibility to achieve the group’s goals, frequent use of the relevant interpersonal and small-group skills, and frequent and regular group processing of current functioning to improve the group’s future effectiveness (Johnson and Johnson, 2009). When teachers are actively involved and providing successful instruction under the co-teaching model, these five elements are utilized.

**Definition of Terms**

Terms that are important to know in co-teaching and the federal regulations that guide decision making in public education are defined below to assist in understanding the complexities of the public education system.

**Annual Yearly Progress.** Measure by which schools, districts, and states are held accountable for student performance under Title I. The law requires states to use a single accountability system for public schools to determine whether all students, as well as individual subgroups of students, are making progress toward meeting state academic content standards (Education Week, 2011).

**Core subjects.** English, reading, language arts, mathematics, science, foreign languages, civics and government, social studies, economics, arts, history, geography (NCLB, 2001).
Co-teaching. When a general education teacher and the special education service provider (either a special education teacher or related service provider) participate in lesson or activity planning together and work together in the same classroom to instruct both students with and without disabilities (NICHCY, 2011).

Secondary. Secondary instruction is 9-12 classrooms (regardless of the setting), 6-8 classrooms if the classroom does not meet the definition of self-contained (MDE, 2008).

Summary

As the practice of co-teaching becomes an acceptable instructional model, school districts and teachers should examine the research available on co-teaching to help guide instruction to ensure the needs of the students, teachers, and districts are met. This review of literature will identify co-teaching as a form of cooperative learning, as well as review selected research-based strategies contributing to a successful co-teaching environment. Potential benefits to students and teachers in the general education core classroom along with challenges and barriers discovered through research will be examined. Furthermore, the goal of instructional practices is to strive for success for all students and teachers; research describing how co-teaching affects students and teachers in the classroom will also be reviewed. Finally, the review will conclude with supports and strategies to overcome challenges when utilizing the co-teaching model along with recommendations for future research.
Chapter Two: Literature Review

As the practice of co-teaching becomes an acceptable instructional model, school districts and teachers should examine the research available to help guide instruction. The purpose of this literature review is to: (1) establish co-teaching as a form of cooperative learning; (2) report research-based strategies that contribute to a successful co-teaching environment; (3) examine benefits, challenges, and barriers of co-teaching for teachers and students; (4) describe how co-teaching affects teachers and students.

Co-Teaching as Cooperative Learning

One model of instruction utilized in school systems to meet the requirements of No Child Left Behind (NCLB) and Individuals with Disabilities Education Act (IDEA, 2004) is co-teaching. Co-teaching is a model for collaboration, cooperative learning, and a form of inclusion that impacts student achievement. The definition of collaboration is, “the interactions between professionals who offer different areas of expertise yet share responsibilities and goals” (Murawski and Hughes, 2009; p. 269). The definition of co-teaching by Cook and Friend (1995) (as cited in Murawski and Swanson, 2001) is “two or more professionals delivering substantive instruction to a diverse or blended group of students in a single physical space” (p. 2). As these processes take place in a classroom where the student population includes general education and special education students, a cooperative, co-taught environment is modeled.

Strategies for Success

Classroom settings in secondary education are required to support a diverse range of learners ranging from students who are gifted to students who have disabilities. Inclusion is now mandated along with the requirement that all students are expected to meet the same academic standards due to NCLB and IDEA (2004). As districts meet these requirements, co-teaching is
evolving as an educational practice (National Center for Educational Restructuring and Inclusion, 1995). As general education and special education teachers’ work together to meet the needs of the students in the classroom, attention to effective practices must be considered. Strategies for success include co-teaching structures, preparing to co-teach, and research-based strategies.

**Co-teaching structures.** The first step in providing strategies for success in co-teaching and evaluating the influence this methodology has on the learning in secondary classroom is to review what co-teaching looks like with research-based practices. “Creating a Co-taught Classroom Integrating Co-teaching and Research-based Mathematics Strategies” by Sileo and van Garderen (2010) is an article based on a general educator and a special educator’s initial experience in creating a co-taught classroom while integrating co-teaching and research-based mathematics strategies. Sileo and van Garderen described the six different co-teaching structures identified by Friend (2005) and what mathematic strategies look like when integrated. The authors provided an overview of co-teaching as a methodology where students received educational services in a least restrictive environment, access to core-curriculum requirements, and a service delivery model where two teachers share responsibilities for content delivery, assessment, and classroom management. Six co-teaching structures were identified as possible service delivery models: (a) one teach, one observe; (b) team teaching; (c) alternative teaching; (d) parallel teaching; (e) station teaching; (f) one teach, one drift.

**One teach, one observe.** The first structure explained by Sileo and van Garderen (2010) was ‘one teach, one observe’ where one teacher provided the instruction to the class as a whole, and the other teacher observed students. This model was used by the teachers more frequently during the initial implementation process and periodically when data needed to be collected, and
to support or monitor student behavior. Observed student behaviors included time on task, participation, and difficulty with material.

**Team teaching.** The second structure of co-teaching Sileo and van Garderen (2010) identified was team teaching. Team teaching was defined as teachers who shared all aspects of instruction to include planning and direct instruction. In this structure, teachers taught side by side to the class or through jigsaw instruction where students learned material individually or in small group then brought the new knowledge to a larger group of students to then teach to the larger group. Teachers assisted with group interactions and instruction. The frequency this model was used was not stated, but an example of application was reported during a unit on contextualized problem types. The teachers believed this structure supported their need, as well as benefitted the students.

**Alternative teaching.** Defined as one teacher who taught to a small group while the other teacher taught to the remaining class, Sileo and van Garderen (2010) described alternative teaching as an excellent opportunity to provide students with intense and individualized instruction. This method was used a minimum of two times per week to assist students’ comprehension of word problems. One teacher engaged students with explicit instruction for 15 – 20 minute sessions, while the other teacher provided word problem-solving activities to the remainder of the class.

**Parallel teaching.** Sileo and van Garderen (2010) described parallel teaching as teachers planning collaboratively and concurrently while providing the same instruction. The class was divided equally and created two small heterogeneous student groups. One teacher presented instruction to one group of students while the other teacher provided instruction to the other group. Benefits included small group instruction with an opportunity to provide individualized
instruction and remediation. Parallel teaching was used by the co-teachers during a geometry unit requiring the use of manipulatives through the use of concrete-representational-abstract (CRA) instructional practices as it allowed a hands-on approach with supplementary individualized instruction.

**Station teaching.** The fifth co-teaching structure identified by Sileo and van Garderen (2010) was station teaching. Station teaching was described as teachers dividing the responsibility of providing instructional content. The class was divided into groups with a different activity assigned to each group. Students circulated to each station and learned a specific learning objective either throughout a class period or during established times during a class period. This method was used in March of the school year, but did not state the length of time. The co-teachers assigned students to a group who were required to work at a station for a period of 5 – 10 minutes three times a week to review math facts. Students rotated at the start of each new lesson. The station teaching structure enforced the research-based strategy of practice to reinforce retention. Additional research-based strategies at the stations included visual mnemonics and drill model/peer tutoring.

**One teach, one drift.** The final structure in co-teaching identified by Sileo and van Garderen (2010) was ‘one teach, one drift.’ One teach, one drift was compared to the structure of one teach, one observe. The difference between the two structures was based on the actions of the teacher not providing instruction. Instead of noting student observations, the teacher drifted through the classroom to check student comprehension. When the one teach, one drift method was used, the teachers were able to quickly identify students’ misunderstandings and levels of frustration. The article did not state how frequently this structure was used, but did give
examples of how this process allowed the co-teachers to provide additional one-on-one assistance, prompts, or provide definitions to assist with understanding new material.

Potential challenges of blending co-teaching and research based practices were identified by three specific challenges by the authors. First, many research-based practices were not designed for students with disabilities in the content area of mathematics. Research-based practices available tended to focus on elementary and middle school mathematics. Second, not all research-based practices identified were appropriate for all students as many are designed for specific grade levels. Third, identified research-based practices offered a limited range of strategies that would not assist students engaged in different learning objectives. An example given was the use of drill and practice when solving word problems.

The purpose of including this article review was to identify Friend’s (2005) six structures of co-teaching and identify what these practices look like when engaged with research-based instructional practices specific to mathematics. In conclusion, the authors stated no co-teaching structure was better than another but different structures could be used for different purposes such as pre-teach, re-teach, review, and enrichment. Statistical data reflecting the academic results of integrating co-teaching and research-based practices were missing and was noted as limitation of the article.

With co-teaching structures defined, a review of how to prepare to co-teach should also be conducted to further demonstrate successful co-teaching. Dieker and Murawski (2004) identified specific strategies for success in “Tips and Strategies for Co-teaching at the Secondary Level.” The authors identified themselves as having had successful co-teaching experiences currently providing consulting services on strategies to make co-teaching a viable choice in school districts choosing to provide this service delivery model. Dieker is an Associate
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Professor at the University of Central Florida and Murawski is an Assistant Professor at California State University, Northridge.

**Preparing to co-teach.** The first tip offered by Dieker and Murawski (2004) was how to prepare to co-teach. Teachers were encouraged to become involved in this process before actually engaging in the service delivery model of co-teaching. Suggested activities were to talk with colleagues, administrators, and read literature to understand the necessity of proper student schedules, teacher compatibility, and co-planning time. The importance of personnel involved was also explained. Administration and co-teachers each had roles to ensure a successful co-teaching experience. Within the spectrum of administrative roles of providing information and encouraging a proactive approach, Dieker & Murawski included Table 1 titled “Preparing to Co-teach.” The table listed actions co-teachers should undertake, along with questions to ask themselves as beginning co-teachers. Actions included: (a) assess the current environment; (b) move in slowly, (c) involve an administrator, (d) get to know your partner, (e) create a workable environment. Twenty questions were listed, divided between the ‘actions.’ An example of a question within the action category “assess the current environment” (p. 55) was, “What type of collaboration currently exists between general and special education?” (p. 55) In the action category “get to know your partner” (p. 55), an example question was, “How shall we ensure we both will be actively involved and neither feels over-or-under-utilized?” (p. 55) The questions within this table provided insight and guidelines for successful implementation, additionally teachers were recommended by Dieker and Murawski to examine current roles and practices when beginning this new teaching relationship.

Dieker and Murawski (2004) explained the roles of the co-teachers from the perspective of the secondary level where teachers tend to operate autonomously due to subject-specific
content expertise and included individual teacher responsibilities to assist co-teachers gain necessary skills on how to co-teach. Suggested roles for special educators included providing in-class support in a variety of classrooms until a rapport is established, and beginning the co-teaching process with a colleague with whom rapport had previously been established to develop co-teaching skills in a trusted environment. Taking time to get to know your partner by utilizing available checklists assessing readiness to co-teach and developing successful partnerships were recommendations by Dieker and Murawski. Further explained by Dieker and Murawski were the three major components of true co-teaching, co-planning, instruction, and assessment: The images of co-teaching.

**Co-planning.** Co-planning was identified as essential by the Dieker and Murawski (2004) as this provided a designated time where instructional techniques used and the content standards covered in the classroom were determined. Co-planning time provided teachers opportunities for creating differentiation within lessons and developing areas of expertise each co-teacher provided to the classroom. Suggestions for co-planning included seeking administrative support for an established time period either daily or weekly, and exploring options to meet outside of school if scheduling conflicts arose. In regards to curriculum planning, suggestions for success by Dieker and Murawski were to ask the general educator for an overview of upcoming content before meeting to pre-plan while the special educator provided IEP data necessary for proper planning for students with special needs. How to use planning time effectively was also explained by the authors. Suggested procedures included: (a) begin with what will be taught and how (leaving student-specific issues for the end of the meeting); (b) create a co-teaching plan book; (c) establish when each teacher will assume the role of lead teacher and planner.
**Instruction.** The second major component identified by Dieker and Murawski (2004) was instruction. The authors noted “giving up total control of the classroom can be daunting; however, instruction is frequently reported to be the most rewarding part of co-teaching” (p. 54). Tips offered for instruction included: (a) learn and utilize the different structures of co-teaching, (b) discuss learning style preferences and incorporate into instruction, (c) create communication signals between teachers for extra time, (d) create consistent communication signals with students, (e) use complementary teacher actions included in Table 2. Table 2, titled “*Teacher Actions During Co-Teaching,*” was comprised of two columns with specific teacher activities to use during the course of the instructional period. The columns were titled “If one of you is doing this…” (p. 56) and “The other can be doing this…” (p. 56) Over 40 activities were listed to ensure teachers were both fully engaged in the co-teaching process. Dieker and Murawski’s example of what co-teaching looked like as when teacher was lecturing, the other modeled note taking on the overhead.

**Assessment.** The third major component, assessment, was identified Dieker and Murawski (2004) as important due to high stakes testing implemented in many school districts and because assessment linked what was being taught to what was learned. The area of assessment created an opportunity for collaboration between teachers to evaluate what actually occurs in regards to learning. Assessment was described by the as the opportunity to evaluate areas where revisions were necessary, whole class instructional activities examined, review individual modifications and accommodations, and establish targeted students needing remediation. The authors’ suggested ideas for assessments included alternative and authentic assessments, modified assignments, and use of differentiated assessments. Dieker and Murawski also suggested co-teachers use the area of assessment in determining how to meet IEP
requirements and how to reflect goals into classroom grades. Assessment also provided an
opportunity to discuss sensitive topics to stop concerns before real problems developed.

Dieker and Murawski (2004) concluded co-teachers ask themselves two questions when
proceeding through the inclusive, co-teaching experience. The first question was, “Is what we
are doing good for both of us?” (p. 55) and second, “Is what we are doing good for all of our
students?” (p.55) When both questions were answered ‘yes’ it was suggested the co-teachers
continue and review as they move forward. If either answer were ‘no’, suggestions for
continuing in co-teaching involved revisiting recommended guidelines and seeking advice from
other successful co-teachers. The tips and strategies offered in this article were provided to assist
in a successful co-teaching experience for teachers and students. Additional guidelines and
resources were not provided in the article offering solutions if the strategies provided were not
effective and were noted as limitations of the article.

**Effective Practices and Challenges**

The third area in strategies for success is the need to review research-based articles or
studies related directly to the implementation of co-teaching. Effective practices and challenges
associated with inclusion have been researched through several studies. The findings of several
long-term case study qualitative investigations were compiled by Graetz, Mastropieri, & Scruggs
(2005) to examine the successes, failures, and challenges of co-teaching in the content areas.
Case study one focused on 50 students representing general education and students with
disabilities and four teachers; two general and two special education teachers in upper
elementary and middle school science courses. Case study two consisted of 30 students, a
general education and special education teacher in a middle school social studies course. Case
study three focused on three classes of 10th grade world history with class sizes ranging from 22
25 students and three different co-teaching teams. The final case study examined was a high school chemistry class with one co-teaching team and class sizes ranging from 22 – 27 students. The length of the observations conducted ranged from one semester to two years.

Data gathered during the research by Graetz et al. (2005) consisted of: (a) extensive observations of classroom activities; (b) field notes; (c) videotaped instruction of classes; (d) interviews with teachers and students; (e) student work samples; (f) tests, exams, and classroom activities. Working relationships, co-planning, effective instructional skills, and expertise in content areas were analyzed and examined using analytic inductive and constant comparative method (Patton, 2005). Across the four case studies examined by Graetz et al., three major ideas were found to influence the success of the co-teaching collaboration: academic content, high-stakes testing, and co-teacher compatibility.

**Academic content.** Graetz et al. (2005) found academic content did not affect the success of the collaboration as much as the content knowledge itself. What led to the success in the classroom when content was examined was the knowledge base of both teachers involved in the collaboration and how that knowledge was presented to students. When both teachers were equally prepared in content, researchers cited a true collaboration, or co-teaching experience took place within the classroom. In subjects where the special education teacher had less content knowledge, the special education teacher assumed the role of aide in the classroom. The data from this study did not support the idea that general education teachers provided more instruction while the special education teachers provided more pedagogical knowledge and learning strategies. Graetz et al. identified the theme of content knowledge as contributing to determining the lead teacher in the collaboration team and subsequently the success of co-teaching.
High-stakes testing. In the area of high-stakes testing, in schools where it existed, Graetz et al. (2005) cited a strong influence on how content was covered and how co-teachers collaborated. Presentation of content expectations was scripted with specific guidelines as to the relevant content needing to be covered, along with deadlines for starting and completing content units. Researchers noted these guidelines dictated the pace of the class; thus influencing the level of interventions, extra practice, and modifications the special education teacher provided causing the level of co-teaching to be hindered. The benefits of having a co-teacher in the class to utilize the expertise within special education was not evident by Graetz et al. as modifications and accommodations were more difficult to provide in faster paced classes. High-stakes testing evolved as a theme for the researchers due to the influence this type of assessment had on how teachers collaborated and how the content was covered.

Teacher relationships. The third idea found through the analysis by Graetz et al. (2005) was the necessity of a cohesive, positive relationship between the teachers involved in the collaboration. Teacher compatibility was found to be the most important theme in this study in evaluating a successful co-teaching collaboration. Graetz et al. identified compatibility based upon trust and mutual respect as a critical component influencing the success of the co-teaching experience for both teachers and students placed in the inclusive, co-taught classroom. The relationship between the general education and special education teacher influenced the outcomes of special needs students in the inclusive setting due to trust, respect, and professionalism exhibited by both educators. When effective teaching behaviors and strategies such as “clarity, enthusiasm, maximized student engagement, and motivational strategies” were used, the co-teaching experience was even more successful (Graetz et al., 2005; p. 266.) The conclusions of Graetz et al. revealed the specific variables of academic content knowledge, high-
stakes testing, and teacher compatibility strongly influenced the success of the co-teaching experience. The authors suggested further research to identify further implications of co-teaching. Limitations identified by Graetz et al. were: (a) omission of important information on measures, (b) teachers interviewed only had successful co-teaching experiences, (c) teacher personality was most important variable in co-teaching success, (d) lack of consistent definition of co-teaching, (e) difficulty with subjectivity.

In addition to the case study conducted by Graetz et al., several articles were written on classroom instructional practices designed to assist educators to better prepare or learn new methods or current trends in education. Dieker and Murawski (2003) examined co-teaching at the secondary level: unique issues, current trends, and suggestions for success. The paper was not research-based as it was neither qualitative nor quantitative with statistical data; however, the authors had conducted previous research and collaborated on this article focusing on what was currently taking place within secondary classrooms regarding higher standards, different types of scheduling, high stakes testing, and how co-teaching addressed these issues. Strategies benefitting teachers and students were included to better prepare teachers who were placed in co-teaching assignments.

Secondary Instruction Issues

Dieker and Murawski (2003) identified co-teaching as an educational practice for service delivery utilized more at the secondary level with specific issues identified at this grade level. The purpose of the article was to recognize these issues and suggest strategies related to content, structure, and the increased diversity co-teaching provided at the secondary level. The authors identified what co-teaching was and was not with a chart adapted from Murawski (2002).
Secondary instruction issues identified as having an impact on co-teaching were teacher preparation, planning time, and the content knowledge of the special education teacher (SET).

**Teacher preparation.** Teacher preparation programs were identified by Dieker and Murawski (2003) as having an impact on content issues as secondary general education teachers (GET) received higher levels of content instruction through the required education programs while SET instruction focused on preparation in learning differences and accommodations and limited content specific curriculum.

Dieker and Murawski (2003) identified the structure of secondary schools as challenging for co-teachers due to large class sizes or caseloads, varied amounts of paperwork, and variety of support staff levels with whom teachers collaborate. Within the issue of structure, the autonomous nature of secondary teachers who normally create and establish course offerings and exert control over the classroom was identified as problematic for co-teaching. A GET classroom shared with a SET can be difficult due to autonomy of having ones “own” class, and because the normal perception of SET in the secondary setting was still identified as exclusion instead of inclusion.

**Scheduling and assessment.** Block scheduling was identified by the authors as being an advantage for co-teaching as it allowed more hands-on instruction, active learning, and processing time when teachers changed instructional practices to encompass the additional time for class periods. Assessment was an area identified as problematic due to the nature of assessments. High stakes testing affected the practice and effectiveness of co-teaching as curriculum was presented at a faster pace in order to have students pass standardized tests. Reported in the article by Dieker and Murawski (2003) was the fear that assessment would be
used to determine the effectiveness of instruction, student progress, and co-teaching collaboration.

**Suggestions for Success.** Suggestions for success fell into three areas of strategies based upon content, structure, and diversity. Dieker and Murawski (2003) suggested proactive discussions, varied instructional practices, and participation in collaborative pre-service preparation as content strategies. Structural strategies provided by Dieker and Murawski comprised the highest number of suggestions and included: (a) expect progression through stages, (b) vary co-teaching approaches, (c) increase teacher communication across curriculum, (d) select co-teaching partners carefully, (e) use active learning techniques to assist with attention and instructional needs, (f) create common planning time, (g) provide flexibility for the SET, (h) allow special education departments co-teach by area of expertise. Strategies addressing diversity had the fewest suggestions with two identified: adapt co-teaching approaches to meet the diverse needs of students and explore culturally responsive teaching.

Dieker and Murawski (2003) concluded success is attainable when co-teachers identify how the co-teaching process will be implemented and evaluated. Administrative supports, common planning time, student scheduling, and determining how the classroom will function with two teachers were additional conclusions provided by the authors to assist with co-teaching at the secondary level: Implementation can be beneficial for students with thought, time, and planning.

Additional suggestions for success were found in an article by Marilyn Friend (2008). Friend reviewed co-teaching as a simple solution that isn’t so simple after all and examined the complexities teachers face when implementing co-teaching. The article was not research-based with data, but provided an overview of co-teaching with the expectation both teachers actively
participate in providing instruction and share all aspects of responsibility for all students within the classroom.

The purpose of the article was twofold - intended to assist new teachers recognize the potential and pitfalls of co-teaching, while providing an opportunity for experienced teachers to examine current practices, programs, and how to improve them. Co-teaching was presented as an emerging research base because the process of blending different areas of expertise as teachers collaborate has not been fully researched with statistical data demonstrating the effectiveness of this instructional practice.

**Expertise of educators.** Friend (2008) described the various areas of expertise brought to the classroom by general educators as content knowledge, management skills for large group settings, an understanding of typical learning, and pacing to ensure rigor is met. Special educators provided in-depth knowledge and skills through the ability to provide accommodations, modifications, strategies, and remediation; plus an understanding of each student’s individual needs, ability to attend to Individualized Education Programs (IEPs), and focus on mastery of learning. A Venn diagram model was used as an example of how two teachers skills overlap, yet have distinct differences.

**Planning time.** Friend (2008) referenced the co-teaching model as the “ability to combine knowledge and skills to create learning environments in which instruction is both rigorous and flexible, standards-based but accommodated to each student’s unique learning needs.” (p.11) Availability of co-planning time was listed as the number one problem. Friend described planning time as a two-component process. The first component involved key decisions and discussions of critical topics occurring at a minimum of once per month, a class period, or an hour set aside specifically for this purpose. The second component was the “on-
the-fly” (p. 12) conversations which should take place daily. Friend listed compensated summer planning, planning with assigned continuous education credit, and planning on district staff development days as examples of how to incorporate co-planning.

**Development of relationships.** Co-teaching relationships were also identified as a challenge for co-teaching by Friend (2008). This relationship often is compared to a marriage due to the need for commitment, negotiation, and flexibility. Friend identified four strategies to develop strong, positive working relationships. These strategies were: (a) find volunteers in new teaching programs; (b) give potential co-teachers choices with whom they would be most comfortable with to create working relationships; (c) make staff development meaningful through workshops and learning communities where teachers develop joint expectations, learn individual learning styles, and develop a foundation for their future; (d) resolve small issues by addressing the problems before they develop into larger problems.

**Utilization of personnel.** Poor use of personnel was identified by Friend (2008) as a core problem in co-teaching when the general education teacher is the lead teacher while the special education teacher assisted versus providing actual instruction. In order to ensure co-teachers each have a productive role, Friend suggested three solutions: (a) use the six fundamental co-teaching approaches dependent upon the needs of the classroom; while ensuring the one person teach, while the other gathers data, and the one person teach while the other provides assistance were used less frequently; (b) use co-planning time effectively by deciding teacher responsibilities and roles based upon the content taught; (c) establishing a time to debrief and discuss what took place during instruction to evaluate what worked, what went wrong, and what to do to improve. Friend recognized these areas of concerns as challenges related directly to administrative support.
Administrative support. Friend (2008) states, “Some principals expect teachers to address the details of this service delivery option with little assistance from administration.” (p. 16) To increase administrative support, the following suggestions for teachers were provided by Friend: (a) provide administration with information such as printed materials or articles on the topic, (b) invite administration to professional development opportunities, (c) provide solutions for problems encountered during the co-teaching process, (d) set expectations based upon administrative support to avoid high levels of frustration.

Friend concluded co-teaching has tremendous potential to improve achievement of diverse learners. The process; however, was far more complicated than initially viewed due to the many challenges associated with common planning time, diverse teacher relationships, and varying levels of administrative support. The potential for this service model to be used for students with disabilities remained a viable option, even when the challenges were examined, by allowing curriculum access for all students. The limitations of the article are similar to current data and available research on co-teaching: limited results on the effectiveness co-teaching provides as a service delivery option and suggestions for success without supporting statistical data.

Associated Benefits and Challenges

As co-teaching emerges as an instructional method, critics and associated problems are present. Associated benefits, challenges and potential barriers should be examined with reviews conducted on available literature to determine the influence co-teaching has on learning and instruction.

Influences on teacher learning. According to the National Center on Educational Restructuring and Inclusion (1995) 891 school districts in 50 states reported having inclusive
education models in their schools and reported co-teaching was utilized more than other service delivery models to implement inclusive programs. As co-teaching and inclusion have increased as service delivery options, research to address the issues of implementation, instruction, and effectiveness at the secondary level is just beginning. An examination of co-teaching was conducted by Weiss and Lloyd (2002) to determine the congruence between roles and actions of secondary special educators in co-taught and special education settings. A qualitative method through interviews and observations was used, and a grounded theory (constant-comparative) method (Patton, 2005) of data analysis implemented to examine and describe the roles and instructional actions of secondary special educators.

Two research questions were investigated: 1) What were the roles of special educators in co-taught classrooms at the secondary level? 2) How did instructional actions of special educators differ in co-taught and special education classrooms? Participants of the study were six special educators located in a rural local education agency (LEA) in the mid-Atlantic region.

Three participants taught in middle school grades 6 - 8. Two were female and one male. The first female participant taught in the 6th grade, had ten years teaching experience, and six years co-teaching experience in math, science, and social studies, and taught English, math, and reading as special education courses. Participant two, also female, taught in the 7th grade, had 3 years teaching experience, and 1 year of co-teaching experience in English, math, science, and social studies, and taught English and math as special education courses. Participant three, male, taught in the 8th grade, had eight years of teaching experience, and two years of co-teaching experience in English, science, and social studies, and taught math as a special education course. The remaining three participants taught at the high school level in grades 9 - 12 in a block schedule format of 90 minute class periods, one male and two females. The lone male participant
at the high school level had 6 years of teaching experience, 2 years of co-teaching experience in English and science, and taught English as a special education course. The second high school teacher, female, had 10 years teaching experience, 2 years of co-teaching experience in World History, taught English as a special education course, and had study skills classes in the resource room. The sixth participant, female, had 6 years of teaching experience, 2 years of co-teaching experience in math, geometry, biology, and world geography, taught math as special education course, and had study skills classes in the resource room. None of the participants had received any type of intense co-teaching training.

Data collection began in October and continued through February over the course of one school year. Observations, interviews, and documents were collected, transcribed, and entered into a text-based manager program, FolioViews, for analysis by means of coding, concepts, and mediating circumstances. Teacher observations took place 54 times for at least 30 minutes in both co-taught and special education settings with an average of 9 observations per teacher. Teachers who taught math or English in both settings were observed in both settings. All actions of the special educator were recorded in narrative form during observations.

Weiss and Lloyd (2002) conducted three different interviews with each participant during the course of the study. Questions focused on teacher roles, definitions, and meanings of co-teaching and special education. The first interview was conducted to gain information on experience, co-teaching, and observations. The purpose of the second interview was to gather information to clarify observed actions. The final interview verified previous interviews and observation protocols and validation of descriptions developed. Documents examined by the researchers were teacher journals, completed after each observation with information on lesson materials and comments on the class, special education policy on integration, and job
Weiss and Lloyd (2002) divided the results of the study into four categories: (a) roles in the co-taught classroom, (b) roles in special education classroom, (c) influences on co-teaching roles, and (d) differences in instructional actions. Data revealed four roles special educators assumed in this study during instruction: (a) provide support without direct instruction, (b) same content taught in a separate classroom, (c) different part of the content taught, (d) team teaching. Examination of the observations showed all special education teachers at the high school level provided only support at some point, while two special education teachers exclusively engaged in this structure of co-teaching. Weiss and Lloyd described the second category of roles in the special education classroom as different than what was observed in a co-taught classroom. In a special education classroom, researchers found the special educator provided all instruction but delivered at a lower level, slower pace, and shorter units with more remediation opportunities for students. Two special educators noted more flexibility in curriculum and better assessment opportunities when instruction was provided in the special education classroom. Internal and external factors were found by Weiss and Lloyd to influence the special educator in co-taught and special education classrooms.

**Influences on instruction.** Professional and community pressures were identified by Weiss and Lloyd (2002) as factors forcing teacher participation in the co-taught setting. Community pressure was identified as parents who had students in co-taught classes in the elementary setting and wanted those services to continue because of the state-mandated diploma requirements to receive a regular diploma. Research identified scheduling pressures, content
understanding, acceptance by general educators, and the skills of the special need students as influencing the roles teachers played in the co-taught classroom.

Weiss and Lloyd (2002) compared the instructional actions of special education teachers in the two different classroom settings. Presenting new topic materials or assignments, questioning students, individualized assistance, and opportunity for feedback on students’ performance were identified as areas where differences were noted in the research. When special educators were fully engaged in providing instruction in both co-taught and special education classrooms, the generally accepted roles of classroom teacher were observed by the researchers. Activities supporting this role in a general education classroom were instruction in content concepts, grading assignments, student interaction with both teachers with questions and responses taking place, and concept reviews. Weiss and Lloyd reported different actions in the co-taught classroom. Observable actions included the special educator assuming the role as support; student interactions appearing more frequently as one-on-one assistance at a student’s desk with the general education teacher assuming responsibility for the generally accepted roles of classroom teacher.

Weiss and Lloyd (2002) identified differences in the type of educational assistance offered to students dependent upon the role the special educator assumed and the co-teaching structure utilized. Research identified special education teachers helping students gather materials, correcting incorrect student responses, and correcting completed assignments with students. The greatest amount of assistance was found when special educators taught directly in a special education classroom. Weiss and Lloyd reported the types of assistance observed as decoding assistance, reviewing directions, multiple response options, assignment completion reminders, and activities or responses assisting with on-task behavior.
Based upon these results, several conclusions were offered by Weiss and Lloyd (2002) as factors affecting implementation and success. The first conclusion identified issues found at the secondary level making it very difficult to implement co-teaching as a service model. Issues noted were: (a) gaps in academic and behavioral skill levels between students with and without disabilities, (b) class scheduling conflicts, (c) not enough time to complete required tasks, (d) differences in content knowledge between teamed teachers. The second conclusion offered by Weiss and Lloyd attributed influences on instruction as affecting implementation. Influences noted were: (a) lack of training, (b) lack of common planning times, (c) external pressures, (d) non-use of co-teaching structures created learning environments where intended outcomes for co-teaching were not met. The third conclusion of Weiss and Lloyd was special educator instructional activities were different dependent on location of instruction. Participants provided instructional actions targeting explicit tasks within the special education classroom, but did not provide the same services in the co-taught classroom. Special educators’ roles in a co-taught class focus on monitoring, whole group interaction, and behavior; however, within the special education setting direct instruction, specific learning strategies, and behavior modifications were conducted on a routine basis. Weiss and Lloyd noted the limitations of the study due to the small sample size only containing special educators and the only actions evaluated were the actions of the special educator in either the general education or special education classroom.

A metasynthesis of qualitative research on co-teaching in inclusive classrooms was conducted by Mastropieri, McDuffie, & Scruggs (2007). The purpose of this investigation was to integrate themes and insights from individual qualitative research and combine the data to provide a better understanding of the practice and process of co-teaching from the perspectives of teachers, students, administrators, staff, and parents. Thirty-two original reports of qualitative
research on co-teaching were selected for this investigation through a selection process using previously conducted studies and research that utilized qualitative research methods. Some quantitative methods were included if the data was included within qualitative research. Reports included were reported in journals, dissertations, master’s research reports. Data analysis was mainly inductive and generated through a coding system which resulted in 69 categories followed by a recursive process of category and contextual analysis, and identified relationships. Another revision condensed the categories into four with at least 12 original category codes.

Participants included 454 co-teachers, 42 administrators, 142 students, 26 parents, and 5 support personnel from 18 primary schools, 17 junior high and high schools located in urban, suburban, and rural areas. The participants were geographically diverse and represented the United States, Canada, and Australia. The results of the metasynthesis were presented in four category areas: (a) benefits of co-teaching, (b) administrative support, (c) teacher roles, (d) instructional delivery.

**Benefits of co-teaching.** The first category identified by Mastropieri et al. (2007) was the benefits of co-teaching for teachers and students. Research concluded teachers felt co-teaching professionally contributed to personal growth due to the ability to adapt lessons, learn new ideas from co-teaching partners, and enhanced teaching skills. Data reflected students with disabilities had less failure in the co-taught classes, had peer role models for appropriate behavior, and felt academic and social needs were satisfied at a higher rate. Students without disabilities noted cooperation amongst students and academic benefits due to the extra teacher attention. Data throughout the 32 reports discussed social benefits more than academic benefits. Mastropieri et al. noted student skill level was a concern for many teachers who felt minimum academic and behavioral skill levels should be established to ensure all students’ needs are met.
Mastropieri et al. (2007) reported co-teachers expressing the need for administrative support by allowing voluntary participation between co-teachers, establishing co-planning time, providing appropriate training, and ensuring teacher compatibility existed between co-teaching partners. Research identified a key factor to assist with establishing working relationships: The decision to co-teach should be by choice and not mandated by the administration. Mastropieri et al. reported choosing your partner as greatly enhancing the working relationship thus establishing a collaborative teaching environment.

Mastropieri et al. (2007) identified various teacher roles and different structures of co-teaching implemented during the investigation. The co-teaching structure reported as used most often was a version of the one teach, one assist structure. An observational study in 14 schools indicated the special education teacher was not permitted or seldom assumed the position as the lead instructor creating a classroom environment supporting the one-teach, one assist structure. Mastropieri et al. reported other structures utilized including parallel teaching, alternate teaching, splitting classes due to teacher-teacher conflict, and sharing teaching responsibility. Data collected during the investigation supported the role teacher compatibility and content expertise played in the type of co-teaching taking place within the classroom.

The last category identified in the metasynthesis by Mastropieri et al. (2007) was instructional delivery in co-taught classes. Teacher responsibilities in this area were reported as which teacher provided adaptations and instruction as well as how classroom discipline was handled. Several studies identified general education teachers applying strategies and adaptations to benefit all students in the classroom, not only students with special needs. Adaptations reported included organizers, pacing, classroom supports such as weekly schedules, and seating charts. Research suggested not all general education teachers were aware of the need for
specialized instruction as identified in one study where whole class activities were used 100% of the time, all students follow the prescribed activities, and use the same materials. Special education teachers were found to participate in a range of instructional roles. Mastropieri et al. (2007) identified a special education teacher engaged in all aspects of what is traditionally considered instructional roles; however, date found this case not to be the norm. Special education teachers generally reported a typical role of supporting the general education teacher, providing modified study guides with little opportunity to provide either instruction to all students or individualized instruction. Researchers also reported the special education teacher assuming the role of policing the classroom for inappropriate behaviors and enforcing classroom management in the co-taught classroom.

The results of the investigation reported an overall perception of co-teaching to be beneficial to teachers and students. The metasynthesis conducted by Mastropieri et al. (2007) concluded administrative support actuated the benefits of co-teaching. Mastropieri et al. also concluded when examining the true practice of co-teaching, the fundamentals of two equal partners in the classroom overall were not being met throughout the metasynthesis. Further studies should be conducted to enhance the practice of co-teaching and to determine the effectiveness of this practice on an inclusive classroom. A limitation of the investigation was the lack of statistical data supporting purported benefits.

Most co-teaching studies focus on teacher input through interviews and observations to investigate the benefits provided by this methodology, one study focused on three forms of team teaching or collaboration from students’ perspectives to determine benefits. A mixed study of quantitative and qualitative research conducted by Dugan and Letterman (2008) compared co-
teaching, alternating teachers, and a panel of three or more teachers to a norm of traditional, individually taught courses.

Participants were two hundred and eleven students in team-taught courses in eleven different classes at three different New England universities. The survey instrument utilized was an expanded standard form created by the Individual Development Assessment Center (IDEA) measuring student learning outcomes of courses taught by one instructor modified for team teaching instruction. The survey had forty-three questions that included student ratings of overall outcomes of the course, progress toward objectives, methods, styles, and self and course characteristics; both fixed response and open–ended questions were included. Upon completion of the data collection, the surveys were submitted to IDEA who provided an aggregate analysis comparing team-taught courses to the norm for instruction by an in individual instructor.

Dugan and Letterman (2008) reported previous studies had found team taught courses as receiving higher levels of course satisfaction, higher levels of effort, and improved attitude towards the class; however, current findings suggested the ratings for team teaching and individual teaching were actually similar. Student perceptions were not significantly different between the team teaching versus individual teaching with perceptual differences noted between the different styles of team teaching.

Using the scores from the IDEA survey, a one-way analysis of variance (ANOVA) was used to compare the three styles of team teaching. Significant differences between the co-teaching dyad (M=58.40, SD=4.758) and the collaborative panel (M=34.50, SD 6.50; Tuckey’s HSD, p=.01), and the alternative teaching dyad (M=56.50, SD=1.803) and the collaborative panel (M=34.50, SD=6.50; Tuckey’s HSD, p=.01). Statistically, no significant differences were
reported by Dugan and Letterman (2008) between the three models. Data suggested only a slight preference for co-teaching with the collaborative panel being the least favored style.

Dugan and Letterman (2008) reported previous research listed benefits for students and teachers along with negative aspects of team teaching; however, few studies resulted in negative results for students. Through the results of the survey, researchers found most students were satisfied with the team taught course with concerns focusing on lack of communication between professors. The findings showed students did have a preference for the style of team teaching when a truly collaborative co-teaching method was used. Limitations of Dugan and Letterman’s survey were small sample size and to not generalize the results to the K-12 student population as this study was conducted at the university level. This study was utilized for this review to support the perceived benefit of student satisfaction in co-teaching from students’ perspectives.

**Influence on Student Learning**

The previous reviews explored benefits and challenges when implementing co-teaching and also provided data on perceptions of co-teaching. Reviews evaluating the effects on academics were also examined to gain a complete perspective of the influence of co-teaching. To determine the effect of inclusion, an exploratory study to assess adaptive behavior and academic achievement was conducted by Disher, Mathot-Bucker, McDonnell, Mendal, Ray, and Thorson (2003). A quasi-experimental pretest and posttest design to evaluate adaptive behavior was used while academic achievement was measured by a mandated state-level criterion referenced test. The yearlong study evaluated the achievement of students with developmental disabilities and their peers without disabilities in an inclusive setting. Five elementary schools in four different school districts covering rural, urban, and suburban schools with a total of 14 students with developmental disabilities were assessed. The mean age of students with disabilities was 8.9; 8
males and 6 females with an average IQ of 54.6. Instruction and participation in the general education setting averaged 94.9% of the day. Students without disabilities were divided into two experimental groups. The two groups totaled 324 in the inclusion classes and 221 enrolled in comparison classes comprised of students in the same grade-level class but did not include any students with disabilities.

Students with disabilities were administered the Scales of Independent Behavior-Revised (SIB-R) as a pretest and posttest. The SIB-R assessed adaptive behavior in the areas of motor, social, and communication skills. The Utah Core Assessments in reading, language arts, and mathematics was administered to students without disabilities. Comparisons of students without disabilities in inclusive and comparison classes were conducted using One-way Analysis of Variance (ANOVA) (Patton, 2005).

The results reported by Disher et al. (2008) on the SIB-R pretest and posttest scores were significant suggesting that students with disabilities made improvements in adaptive behavior when instruction was presented in an inclusive setting. The results of the ANOVA indicated no significant differences for students without disabilities enrolled in either group. Students in the inclusive group attained mean reading/language arts scores of 87.9% and in the comparison group attained mean reading/language arts scores of 87.5%. Disher et al. reported the presence of students with disabilities in the general education setting did not negatively impact the academic achievement of students without disabilities; however, neither did the results determine an effect on improved academic achievement, although a significant change in behavior was identified. Of significance was the study’s focus on 14 elementary-aged students with lower IQs who received additional supports; therefore, the results must be examined within limitations based on the lack
Not all studies reviewed reflected a positive result when students received instruction in a co-taught classroom. A study conducted by King-Sears and Bowerman-Kruhm (2011) investigated specialized reading instruction for adolescents with learning disabilities: What special education co-teachers have to say, examined specialized reading instruction from the special education co-teachers’ perspective.

When IEPs were written, goals were put in place to receive specialized reading instruction. Accommodations and modifications designed to enhance the content being taught within the classroom were included in the IEPs together with providing remediation in areas identified as academic weaknesses. Within the subject area of reading; fluency, decoding, vocabulary, and comprehension were the skill areas typically targeted for remediation. King-Sears and Bowerman-Kruhm (2011) noted when students with special needs transition through elementary, middle, and secondary education, remedial instruction tended to lessen due to the demands of curriculum at the secondary level. This exploratory study was conducted to seek information from middle and high school special education teachers on how specialized reading instruction was provided within co-taught classes or at other times during a school day.

Participants were all sixth, seventh, eighth, or ninth grade special education teachers randomly selected from 997 on-line survey requests sent in Virginia, Delaware, West Virginia, and Maryland. Co-teachers were identified as the desired respondents, and from the initial survey responses, 105 met the criteria resulting in an 11 percent response rate. Forty-one percent of the participants taught in grades 6-8, fifty-nine percent taught in grades 9-12. Participant demographics were broken down as twenty-one percent between the ages of 20 and 30 years,
twenty percent between the ages of 31 and 40 years, twenty-one percent between the ages of 41 and 50, and thirty-eight percent over 51 years. Seventy-nine percent were female and twenty-one percent male. Number of years each participant had experience co-teaching was also noted with fifty-nine percent listing 1 – 5 years of experience, twenty-six percent had 6 – 10 years, and the sixteen percent had 11 or more years of experience.

Data specific to school demographics listed sixty-one percent of the schools were located in suburban areas, thirty-three percent in rural areas, and six percent in urban areas. School populations ranged from schools with 1201 – 1800 students to schools with less than 600 students.

Participants were administered a specialized reading instruction survey designed for co-teachers. A Likert-type response was used to measure eight statements with “strongly agree” as 1, “agree” as 2, “disagree” as 3, and “disagree” as 4. One open ended question asked the participants to identify the reading program currently being used. Results reported by King-Sears and Bowerman-Kruhm (2011) were consolidated into two groups; strongly agree and agree, and disagree and strongly disagree. Survey questions fell into four categories: (a) use of the IEP document; (b) amount of specialize reading instruction provided to students with reading deficits in an inclusive classroom; (c) level of accommodations, modifications, and specialized reading instruction provided in a resource room; (d) planning, scheduling, and student progress.

King-Sears and Bowerman-Kruhm (2011) investigated how the IEP was used when co-planning. Eighty-six percent of participants agreed the IEP content was used to help co-plan instruction. The second category investigated by the researchers examined where and when delivery of specialized reading instruction occurred; specifically, whether delivery occurred in co-taught settings or elsewhere. Participants were asked to answer two statements. The first
statement of “I am concerned that students whose IEPs required specialized reading instruction *do not* receive that type of instruction in *co-taught* classrooms” (p. 177) generated equal results between agreed and disagreed with forty-nine percent each. The second statement of “I am concerned that students whose IEPs required specialized reading instruction *do not* receive that type of individualized instruction at *any time during the school day*” (p. 177) generated results where sixty-seven percent disagreed.

King-Sears and Bowerman-Kruhm’s (2011) third category focused on accommodations, modifications, and specialized reading instruction provided in co-taught classrooms. Participants answered two statements in this category. The first questions was, “I am concerned that students with IEPs requiring specialized reading instruction receive accommodations and/or modifications (such as videos or digitally recorded books) minimizing their need to read, not individualized instruction that increases their decoding and comprehension.” (p. 177) Fifty-two percent of the participants agreed with the statement. The second statement “I am concerned that students with IEPs requiring specialized reading instruction receive accommodations and/or modifications (such as videos or digitally recorded books) that minimize their need to read, not individualized instruction that increases their decoding and comprehension.” (p. 177) Seventy-one percent of the participants agreed with the statement.

The final category investigated was planning, scheduling and student progress. Participants were asked to answer three statements. The first statement of “When students with disabilities received all instruction in a co-taught class, planning for specialized reading instruction is difficult” (p. 177) generated a response of sixty-one percent of participants agreeing. Question two was “When students with disabilities are in co-taught classrooms all day, at least one content area is designated as the class which the students receive their individualized
reading instruction.” (p. 177) Fifty-three percent disagreed with statement two. The third statement of “I believe students with disabilities who have IEPs requiring specialized reading instruction have difficulty making reading progress in co-taught classes where I am a co-teacher” (p. 177) showed fifty-nine percent of participants disagreeing.

When the responses of the survey were examined by King-Sears and Bowerman-Kruhm (2011), educational implications were discovered. Research identified students whose IEPs stated the need for specialized reading instruction did not receive it through the co-taught classroom. Modifications and accommodations were used although these supplementary services were not the same as specialized reading instruction. Modifications and accommodations were in place to assist students who were not at grade level due to lower reading levels. King-Sears and Bowerman-Kruhm concluded one-third of the co-teachers in this study noted students’ experience difficulty achieving reading progression in co-taught classes yet two-thirds of the co-teachers believed reading progress was made in co-taught classes. The results of the survey confirm the need for additional research to evaluate the effectiveness of co-teaching and specialized reading instruction. Limitations of the survey by King-Sears and Bowerman-Kruhm (2011) included lack of respondents from urban schools, and the participants of the study were not representative of the population of middle and high school special educators in the four state area. An additional limitation noted was lack of reliability in responses due to personal perceptions when answering questions, the type of survey, and lack of observations and documentation.
Chapter III: Results and Analysis Relative to the Problem

The co-teaching movement emerged as a possible solution to the challenging requirements set forth by No Child Left Behind and Individuals with Disabilities Education Act (2004) and has since been subjected to numerous studies and evaluations for effectiveness and process as a service delivery model. Current available research is limited; however, restricting the availability of accurate assessments and evaluations on the effectiveness of co-teaching. Researchers and participants have documented experiences with and observations of co-teaching to better specify how teachers can engage in effective collaboration to provide optimal educational benefits. When executed properly, co-teaching provides professional and personal growth to educators while improving social and study skills to students. Without proper training and preparation for educators, however, this service delivery model’s potential benefits are not fully recognized. The key to success when co-teaching, according to available research, can best be summarized as teamwork. One imperative aspect of effective co-teaching is personal compatibility between teachers. Establishing a functioning relationship founded in trust, respect, and understanding is an extremely important basis of this teaching method. That relationship then leads to effective teamwork in another aspect of co-teaching: execution. Teachers must work together to distribute responsibilities and duties equally, including both planning and implementation of lessons. Beyond the necessity of quality collaboration between teachers, positive and symbiotic relationships with administrators are also very important to successful co-teaching. One of the biggest challenges cited throughout the research is a lack of administrative support and understanding for the unique educational approach of co-teaching. While several other challenges and necessities for successful co-teaching have been explored, it is ultimately
the need for teamwork and unanimous support that is evident as the most important tool for the service delivery model of co-teaching.

**Positive Influences for Educators**

Researchers identified several positive influences for educators involved in co-teaching; citing constant professional development and instructional advancement are fostered. Professional and personal growth, ability to adapt lessons and learn new ideas, and increased student-teacher and teacher-teacher interactions attributed to collaboration were recognized in several studies and articles (Dieker & Murawski, 2003; Mastropieri et al., 2007; Weiss & Lloyd, 2002). Additional benefits identified for teachers throughout research focused on instructional practices. Instructional flexibility, ability for rigor and standards-based instruction, and the ability to focus more on instructional needs of students are further evidence of the influence of the co-teaching model as evidenced by the research (Dieiker & Murawski 2003; Friend, 2008; Mastropieri et al., 2007). With an additional teacher present in the classroom, differentiation of instruction can occur, general education expectations can be accommodated and modified, and two sets of eyes and minds are available to monitor and assist students who may have difficulties with material or behavior. As teachers engage in practices leading to professional growth, faculty and school districts as well students reap the benefits.

**Positive Influences for Students**

Positive influences on students are also evident in the research focusing on social aspects and perceived academic improvement. General and special education students noted satisfaction with co-taught instruction and identified enhanced performance, improved social skills, study skills, and improved classroom community as benefits in several studies (Dugan & Letterman, 2008, Mastropieri et al., 2007). Students placed in co-taught classrooms become more accepting
of all students, helping to alleviate stigmatisms placed on students with disabilities as well as providing opportunities for peer role models. Greater opportunities for individualized instruction for students experiencing difficulties with general education content expectations are evident when co-teaching structures are used appropriately (Mastropieri et al., 2007; Friend, 2008; Weiss & Lloyd 2002).

**Strategies, Challenges, and Benefits**

Strategies, challenges, benefits for both students and teachers, and academic influences of co-teaching are affected by many factors. According to available research, one of the strongest influences on the success rate of co-teaching is the need for a strong relationship as the foundation of the professional endeavor. Scruggs, Mastropieri, & McDuffie (2007), stated “co-teaching is analogous to a professional marriage in which teaching partners collaborate to provide instructional services to students with disabilities and others at risk of school failure as a result of the negative consequences.” A successful collaboration is formed when two teachers develop mutual trust, respect, and flexibility with each other. This collaboration can then have a tremendous impact on the learning capacity within the classroom as well as professionally between the two educators.

Co-teachers who are placed together without any input regarding content or teacher placement or options to volunteer for co-teaching miss a development stage crucial for a successful co-teaching partnership (Graetz et al., 2005, Sileo, 2011; Scruggs et al., 2007; Graetz et al., 2005). Several common strategies were observed throughout the reviews as suggestions for prospective co-teachers, including learning the six co-teaching structures and when to use each, volunteering to participate in co-teaching exercises, communicating with potential teaching
partners, and directly involving administration (Dieker & Murawski, 2004; Graetz et al., 2005; Murawski & Dieker, 2008).

Another evident necessity for successful co-teaching is proper planning. All research identified shared planning time as having a major influence on the effectiveness of teachers and students’ ability to learn. Walter Thomas’ three-year qualitative study of eighteen elementary and seven middle school teams (1997) identified a lack of common scheduled planning time as being problematic to the success of the collaboration between teachers. Studies revealed planning as an opportunity to develop lessons, review instructional methods, review progress of the co-teaching experience, and when communication took place to address student and teacher concerns along with the successes (Dieker & Murawski, 2004, 2008; Egodawatte, McDougall, & Stoilescu, 2011; Graetz, Mastropieri & Scruggs, 2005; Weiss & Lloyd 2002; Mastropieri, McDuffie, Scruggs, 2007). Sufficient planning time for teachers is essential in determining what instructional techniques will generate the desired results of academic achievement for all students in the classroom (Dieker & Murawski, 2004; Friend, 2008; King-Sears & Bowerman-Kruhm, 2011).

One of the most common challenges cited by collaborating educators was the lack of administrative support. Research articles revealed administration plays a vital role throughout the process of co-teaching, as it affects planning, training, scheduling, and support. The level of administrative support received directly influences the ability to develop a true collaboration between teachers, subsequently having a direct effect on the academic success of students. Principals should become knowledgeable on the co-teaching process, as well as provide planning opportunities and professional development opportunities for staff and themselves to avoid
unnecessary challenges (Dieker & Murawski, 2004, Graetz et al., 2005, Mastropieri et al., 2007 and Sileo, 2011).

Lacking preparation and education can cause many challenges when co-teaching at the secondary level. Teachers did not fully understand how to implement co-teaching, and as a result many assumed the position of an aide. Differences in content knowledge and the autonomous nature of secondary educators made communication difficult and complicated teachers’ ability to cooperate and truly share responsibilities. Communication can be difficult between special and general educators in particular because secondary teachers’ pre-service programs are focused on content and upon entering into the field of education, many work independently in classrooms with minimal interaction between colleagues. Secondary educators become content experts and take ownership of their personal classrooms, making it difficult to communicate with other teachers and to share the classroom. (Mastropieri, McDuffie, & Scruggs, 2007; Weiss & Lloyd, 2002).

This failure to communicate and effectively prepare teachers for the collaboration process often leads to underutilization. Factors contributing to underutilization were (a) missed relationship building procedures, (b) lack of trust, (c) lack of content knowledge, and (d) lack of knowledge on co-teaching structures (Friend, 2008; Mastropieri et al., 2007; Weiss & Lloyd, 2002). Problems arise when a trained professional is assuming the position of an aide. Resentment builds, frustration levels rise, and students do not receive the full benefit of collaboration. Researchers identified co-teachers using the structure of one teach, one observe; or one teach, one drift as engaging in the least effective structures in the co-teaching model (Mastropieri et al., 2007; Sileo & van Garderen, 2010). With either of these models, only one
teacher is actually providing instruction hence losing the benefit of differentiated instruction, small group instruction, or opportunity for remediation.

High stakes testing and instructional pacing were also noted as having a strong influence on effective collaboration. Federal and state requirements to demonstrate Annual Yearly Progress (AYP) are increasing, using high stakes testing to assess student performance as a measurement of AYP. Funding and teacher evaluations are tied to these assessments, creating pressure on general education teachers to ensure students perform well and cover all material. General education teachers are generally more familiar with required content expectations and set the pace of the classroom instruction based upon these expectations along with the increased demands of high stakes testing (Graetz et al., 2005; Dieker & Muraswki 2003; Friend, 2008).

When utilized correctly, the service-delivery model of co-teaching is universally effective when improving academic achievement and expanding opportunity. Both teachers and students reported benefits that included behavioral improvements and increased academic understanding. Concerns by special educators were noted in the area of specialized instruction to meet specific learning goals. Content curriculum requirements create demands on classroom instruction while creating time constraints for other activities. The various strategies available provide individual strengths and challenges, but when teachers are provided with confidence, adequate training, and administrative support, the model is primarily positive. Teachers gain knowledge and professional development while students learn valuable social skills and academic support, providing a fulfilling experience for educators that meet the needs of every individual thus influencing learning in the secondary classroom. Current available research is limited; however, restricting the availability of accurate assessments and evaluations of the effectiveness
Chapter IV – Recommendations and Conclusion

With current demands placed upon school districts to realign classroom instruction to meet the highly qualified requirement of No Child Left Behind, school leaders have an option to select a service delivery option that research has shown to influence teaching and learning. An analysis of current research indicates training, teacher relationships, planning time, content knowledge, and administrative support as influencing teaching practices, teacher interactions, students, and academics when utilizing co-teaching and collaboration. Based upon the findings, the following recommendations for practice and areas for further research are suggested.

Recommendations for Practice

NCLB and Annual Yearly Progress (AYP) changed service delivery requirements in secondary classrooms requiring students with special needs to have core curriculum instruction delivered by highly qualified teachers while still following the IEP. Due to federal requirements, more school districts are using co-teaching as a service delivery model; however, new service teachers and practicing teachers have not received formal training. Training has been identified in the research as essential; therefore, training for co-teaching should begin in pre-service teacher programs and also provided for practicing teachers. When teacher training programs create collaborative opportunities in the forms of prescribed coursework and clinical experience between secondary content and special education teachers a foundation for co-teaching can be established (Siders, 2008: Duchardt et al., 1999). New service teachers can then bring this knowledge into future co-teaching experiences enhancing personal practices, collaborations, and existing co-teaching programs. Opportunities for training for current practicing teachers should be made a priority by administration. In-services and professional development clearly identifying what co-teaching is and is not along with strategies to succeed are vital (Murawska &
Proper training offered through pre-service teacher preparation programs and through administrative support will allow teachers engaged in the collaborative effort to have the greatest levels of success during instruction.

Administration support also affects effective collaboration as administrators should provide direct and deliberate support when implementing a co-teaching program (Lehr, 1999). Specific goals of co-teaching are met when the administration supports educators, not only through training, but by also allowing voluntary participation and providing co-planning opportunities. Voluntary participation leads to positive relationships between collaborating teachers and is a building block to developing a cohesive, working partnership. Co-planning is crucial as common planning times provide opportunities for collaborating teachers to reflect on practices, adjust instruction, and address issues. Additionally, co-planning allows educators to decide the style of co-teaching to be used for the lesson, content expectations, and style of assessments. Co-planning influences the learning of the collaborating educators as each comes into the collaboration with different strengths, ideas, and styles; thus providing an opportunity to engage in learning another teacher’s instructional methods, gain content knowledge and pedagogical strategies, and learn differing styles of classroom management skills.

As co-teachers develop and hone the co-teaching instructional method when following the recommendations of proper training, scheduled co-planning opportunities, and administrative support, students will be influenced by the processes taking place within the classroom. Benefits for students are the availability of two teachers providing instruction and support, chances for individualized attention, and opportunities for differentiated instruction to meet the needs of all students. As school districts realign classroom instruction to meet the highly qualified
requirement of NCLB and select a service delivery option shown through research to influence teaching and learning; the influence of co-teaching on teaching and learning is recognized.

**Areas for Further Research**

The purpose of co-teaching is to ensure students with special needs receiving instruction in the general education class are successful; however, much of the research conducted on co-teaching is based on quantitative studies and case studies focused on problems or benefits for teachers and students. Current studies are limited to perceptions and demonstrate how teachers and students generally perceive the co-teaching model as a positive instructional method. Many questions remain unanswered on the efficacy of co-teaching which require additional studies to determine if students actually benefit academically from this service delivery option.

Based upon research previously conducted, gaps in literature were identified and limitations observed when determining how co-teaching influences academic achievement. In 2001, Zigmond reviewed co-teaching articles in the last 20 years and identified “only four articles in which the effectiveness of co-teaching was measured empirically and compared statistically with a control condition” (p.3). Statistical data supporting the effects of co-teaching are missing from research along with a comparison of co-teaching structures. Studies should be conducted to evaluate and compare the different service delivery options found in co-teaching to other models such as pull-out, consultation, or no assistance (Murawski & Swanson, 2001; Weiss & Lloyd, 2002). Additional research should also be conducted comparing the six different co-teaching structures to determine the efficacy of each and the effects each structure has on academic achievement. Within these recommendations for further research suggested, demographic data should also be evaluated to determine if one model is more effective than another based upon (a) disability, (b) grade, (c) age, (d) socioeconomic background, and (e) rural
or urban areas. With this additional data, an in-depth analysis can occur to determine the effect co-teaching has on all students based upon many variables affecting learning. A suggested starting point for additional research is a study comparing the six instructional structures of co-teaching in a core curriculum course.

With these suggestions for recommended research, additional needs in assessment are identified. Due to the requirements of meeting AYP, many school districts rely on standardized assessments as a measuring tool to evaluate student achievement; however, not all students perform well on standardized assessments. The need for a variety of methods to assess student achievement remains along with the need to document student learning over time. Research to assess alternate assessments associated with curriculum based measurement and differentiated learning should also be conducted. Longitudinal studies could be conducted to determine long-term effects of co-teaching. Results from additional research will assist in future teacher collaborations by providing data specific to the needs of teachers and students engaged in this instructional practice.

**Summary and Conclusion**

The practice of co-teaching as an instructional model at the secondary level is being utilized more in school districts to meet the requirements of NCLB and IDEA (2004). National and state mandates can be met through this instructional practice while ensuring the needs of students, teachers, and districts are met. Students receiving instruction in a co-taught setting, along with their collaborating teachers generally perceive a benefit through this type of instruction. Research identified student benefits as additional support in the classroom, increased levels of success in a least-restrictive environment, students along with challenges and problems. Research identifies improved additional support for students in a least-restrictive
environment, enhanced professional development, and opportunities to reach all learners as benefits for teachers. Student benefits identified included additional support as students along with challenges and problems. Numerous studies conducted on the co-teaching model have been well documented reflecting strategies and specific methodologies (Cook & Friend, 1995; Dieker & Murawski 2003, 2004; Friend, 2008; Graetz et al., 2005).

Current research does provide insight to different influences associated with co-teaching. Teacher, student, and administrative relationships are affected by co-teaching programs. Professional development and training are affected by the level of administrative support provided to the collaborating teachers. When training is provided with guidance on how to begin, maintain, and assess collaboration, positive influences are observed. When training is lacking, problems and barriers to success are noted. Multiple factors play a part in co-teaching, but collaborating teachers often cite lack of administrative support as the reason for having difficulties with implementation of a successful co-teaching program as was noted throughout available research.

Teachers who are in school districts utilizing co-teaching as an instructional method can better prepare for collaboration by gaining knowledge on the practice, talking with experienced colleagues, asking questions, and seeking professional development and administrative support. When teachers are proactive, barriers prohibiting successful implementation of co-teaching can be overcome allowing for learning opportunities for teachers and students. As co-teaching is implemented in school districts, research demonstrates this service delivery options does have an influence on learning; however, further research should provide data specific to student academic performance versus perceptions of success and problems to fully evaluate the influence co-teaching has on teaching and learning.
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