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The Impact Of Co-teaching On Student Learning Outcomes In Secondary Social Studies Classrooms Implementing Content Enhancement R

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THE IMPACT OF CO-TEACHING ON STUDENT LEARNING OUTCOMES IN SECONDARY SOCIAL STUDIES CLASSROOMS IMPLEMENTING CONTENT ENHANCEMENT ROUTINES

by

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ABSTRACT

The purpose of this study was to examine if differences exist in student learning outcomes between students who are instructed in a co-taught or non co-taught environment in secondary social studies classrooms implementing Content Enhancement Routines (CER). This study examined student and teacher data from seventeen matched pairs of co-taught and non co-taught middle and high school general education social studies teachers who participated in professional development in CER and professional development in co-teaching if applicable. Of the 34 participating teachers, 23 were visited by school district personnel to verify implementation of CER. Five co-teaching teams, each consisting of a general and special educator, completed a Coteaching Rating Scale (CtRS) ($n=10$) to analyze the level of co-teaching occurring in the classroom (beginning, compromising or collaborating stage). A systematic sample of students (n = 907) completed a CER Student Perception Survey to examine perceived differences of the use of CER in co-taught and non co-taught social studies classrooms. Student state assessment scores (n = 318) in co-taught and non co-taught classrooms were analyzed to distinguish differences in student learning gains. Specifically this study investigated if differences in student performance occur when a special educator is present in the classroom. Results indicate that although there was no statistically significant difference in student learning outcomes between the two settings, the impact of teacher preparation, professional development and the implementation of CER in the secondary social studies classroom may be determining factors in student success.

This study is dedicated to my supportive and loving husband, Chad, my rock and knight in shining armor of whom I could not have achieved this without. To my sweet Mason who not so willingly shared his Mommy with her laptop his entire little life and our soon to be born son Carter, a future soccer player and constant reminder of the life growing inside me.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS/ABBREVIATIONS

ANOVA	Analysis of Variance
CENTRAL	Coordinating Existing Networks to Reach All Learners
CER	Content Enhancement Routines
CI	Collaborative Instruction
CT	Co-taught
CtRS	Coteaching Rating Scale
EBD	Emotional Behavioral Disorder
FAPE	Free Appropriate Public Education
FCAT	Florida Comprehensive Assessment Test
FLDOE	Florida Department of Education
IDEA	Individuals with Disabilities Education Act
IEP	Individual Education Plan
LRE	Least Restrictive Environment
NCD	National Council on Disabilities
NCERI	National Center on Education Restructuring and Inclusion
NCLB	No Child Left Behind
NCT	Non Co-Taught
REI	Regular Education Initiative

RTI	Response to Intervention
SES	Socio Economic Status
SIM	Strategic Instruction Model
SLD	Specific Learning Disabilities

CHAPTER ONE: INTRODUCTION

"Inclusion is a right, not a privilege for a select few" (Judge in Oberti vs. Board of Education, 1993, p. 1403). With the introduction of PL 94-142, the Education of All Handicapped Children Act, in 1975, educators were required to meet the best interest of each child while providing a Free and Appropriate Public Education (FAPE) in the Least Restrictive Environment (LRE). In subsequent years and with several revisions to PL 94-142, The Individuals with Disabilities Education Improvement Act (IDEA, 2004) has remained at the forefront, guiding educators to increase accountability of individual services and educational programs. In response to NCLB and IDEA, the changing dynamics in schools at the national, state and local level has a direct impact on the education of all students, particularly students with disabilities. The revisions of IDEA in 1997 and 2004 have mandated access to the general education curriculum and participation in general assessments (Gordon, 2006).

Including students with disabilities in the general education curriculum and classroom, a process termed *inclusion*, first considers general education as the place of learning for all children (Villa & Thousand, 2003). Taking into account the continuum of inclusion, particularly at the secondary level, inclusion guarantees access to the general education curriculum and benefits students socially (Mastropieri & Scruggs, 2001). However, even with support, students with mild disabilities tend to have difficulty with the secondary content area curriculum and understanding the complex material often found in texts (O'Rourke & Houghton, 2006). Academic support is needed to strengthen student understanding and reinforce success in the classroom. The question should not be whether or not students with disabilities should be included in the regular education curriculum, but how educators can best meet the needs of everyone involved (Burstein, Sears, Wilcoxen, Cabello & Spagna, 2004).

One approach to meeting the needs of all students and providing inclusive services to students with disabilities is through a service delivery model of inclusion known as co-teaching (Mastropieri & Scruggs, 2001). Through co-teaching, students with and without disabilities are able to receive the support of a special educator in the general education classroom. The general and special educator co-teach, or use a team teaching approach to teaching students the content as well as how they can be active learners in the classroom and best learn the content (Dieker & Murawski, 2003). It is through co-teaching that all students receive access to the general education curriculum in addition to support in the general education classroom. Research is limited on the impact co-teaching has on student learning outcomes, particularly at the secondary level (Murawski & Swanson, 2001).

However, incorporating strategies in the classroom and enhancements to the curriculum may help all students perform better in a collaborative environment (Dieker, 2001; Gately, 2005). Content Enhancement Routines (CER), researched at the University of Kansas Center for Research and Learning, are one type of curriculum enhancement that have been well-researched in improving student understanding of the material in the general education classroom at the secondary level (Deshler et al., 2001). This study specifically investigated if differences in student performance occur in co-taught and non co-taught secondary general education social studies classrooms implementing CER.

Inclusion of Students with Mild Disabilities at the Secondary Level

Students with mild disabilities comprise 70% of all students with disabilities and may have difficulty with one or more of the following characteristics: poor academic performance, poor attending behaviors, hyperactivity, poor memory, poor metacognitive abilities, poor

17

language abilities, inadequate social skills and/or withdrawn behavior (Sabornie, Evans & Cullinan, 2006).

In general, students with mild disabilities include students with learning disabilities, students with mild mental disabilities and students with emotional disabilities (Boon, Fore, Ayres & Spencer, 2005). Students with disabilities at the secondary level face many challenges at one of the most difficult times of their lives. Throughout the adolescent period, youngsters strengthen their morals and values and gain self direction while expanding their independence. They test limits and increase their abstract thinking, as their intellectual interests expand and gain in importance (Vaughn, Linan-Thompson & Hickman, 2003). A typical middle or high school student balances an increase in homework and independent schoolwork demands, emotional and hormonal changes of puberty, social pressures from peers, making new friends, forming relationships with others and prioritizing their time (Peterson, 2004)

Students with disabilities at the secondary level in general, are twice as likely to drop out of high school as compared to students without disabilities (Thurlow, Sinclair & Johnson, 2002). According to The National Center on Secondary Education and Transition (2006), students who drop out of school are 40% more likely to be unemployed than students who stay in school. Alarmingly, 73% of students with Emotional Behavior Disorders and 62% of students with Learning Disabilities who drop out of school have an arrest record.

As per the US Department of Education, Office of Special Education Programs, Data Analysis System in 2001-2002 school years, approximately 2,797,713 secondary students with disabilities, age 12-17 were served in special education programs. In 2002-2003 that number rose to 2,877,486, an increase of almost 80,000 students, just in the 12-17 age category. Yet, about 40% of the students in the 12-17 age range are served in the regular education class 79 % of the time or more. Students receiving services in the regular education class placement on their

Individual Education Plan (IEP) typically would be working toward a standard diploma and may receive services from secondary special educators for part of their day.

Students with Learning Disabilities

Adolescents with learning disabilities typically display difficulties with: organizing, comprehending, comparing, contrasting, storing and retrieving large amounts of content area information (Deshler et al., 2001). Students with learning disabilities have a basic psychological processing deficit which differentiates them from students with general learning weaknesses or mild mental disabilities (Torgesen, 2001).

The Individuals with Disabilities Education Act (IDEA) defines a learning disability in US Federal Code (20 U.S.C. S1401 [30]) as

a disorder in one or more of the basic psychological process involved in understanding or in using spoken or written language, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. Such term does not include a learning problem that is primarily the result of visual, hearing, or motor difficulties, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage (IDEA, 2004, p. 8)

As of the recent reauthorization of IDEA (2004), changes have not been made to the definition but to how schools can identify a student with a Specific Learning Disability (SLD), eliminating the requirement for a student to show a severe discrepancy between intellectual ability and academic achievement (Wright & Wright, 2005). Students may now be identified using traditional procedures that are relevant in the classroom, demonstrating a failure to respond to evidence based interventions (Cortiella, 2006). Amendments to IDEA 2004 became effective October 13, 2006 and include giving school districts the right to use Response to Intervention (RTI) as a means of identifying at risk students as students with learning disabilities who may not show a discrepancy between IQ and academic achievement using the traditional method of evaluating students for a learning disability. Students who are identified as *At Risk* are typically identified through a standardized measure, such as a high stakes test or other uniform assessment, and comprise the lowest 25th percentile or below a pre-specified performance benchmark (Fuchs & Fuchs, 2006).

Socially, students with EBD exhibit behaviors which interfere with their ability to maintain satisfactory relationships and/or are disruptive to the learning environment for themselves and others. They tend to have fewer friends, difficulty interacting with peers, greater conflict with others and less ability to repair relationships (23rd Annual Report to Congress, 2001). Students with EBD typically have difficulty with the three common skills deemed necessary by teachers for success in middle and high school which include: attending to instruction, controlling their temper with peers and controlling their temper with adults (23rd Annual Report to Congress, 2001).

According to IDEA (2004), students with Emotional Behavioral Disorders (EBD) or Emotional Disturbance (ED) as labeled in IDEA, demonstrate one or more of the following characteristics over a long period of time and to a marked degree that adversely affects the child's educational performance:

(A) an inability to learn that can not be explained by intellectual, sensory, or health factors, (B) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, (C) inappropriate types of behavior or feelings under normal circumstances, (D) a general pervasive mood of unhappiness or depression, (E) a tendency to develop physical symptoms or fears associated with personal or school problems (IDEA, 2004).

Of students with EBD, almost 50% are thought to exhibit characteristics of and/or be identified as having a learning disability (Vaughn et. al., 2003).

Inclusion at the Secondary Level

Including students with learning and behavior disabilities in the general education

curriculum is one portion of the continuum of Least Restrictive Environment (LRE), which must

be considered by law for each individual student. One method of providing inclusive special

education services within the general education setting, as used in this study, is the co-teaching

service delivery model. In general, this model includes a general and special education teacher

working together to reach students with and without disabilities in one classroom setting.

Additionally, through the incorporation of a supportive atmosphere, effective disability specific

teaching skills and an appropriate curriculum, co-taught secondary classrooms can be a

successful inclusive environment (Dieker, 2001; Mastropieri & Scruggs, 2001).

In addition to providing an inclusive environment, teachers who use a self-instruction

sequence of specific steps to teach students how to learn are more successful in their teaching

than teachers who do not give students explicit steps (Mastropieri & Scruggs, 2001). One

method verified by research to enhance student learning, is the implementation of CER. Content

Enhancement Routines (CER) have been shown to benefit both students with and without

disabilities in the general education setting when instruction of the routines is used consistently,

explicitly and repeatedly for success (Lenz & Deshler, 2004).

Purpose of the Study

The purpose of this study was to measure differences in student learning outcomes in co-

taught and non co-taught secondary social studies classrooms implementing CER. In Florida

many schools use the term Support Facilitation to describe the current model of co-teaching. Co-

teaching is a level of support in the continuum of services which implies that the student is able to stay in the general education classroom with a minimal level of support which may be provided by a special education teacher or assistant on rotating days, several times a week, once a week, or even as needed (Florida Inclusion Network, 2006). Currently as of the 2004-2005 school year, 53 school districts in the State of Florida reported co-teaching as a model of inclusion where either two basic teachers or one basic teacher and one ESE teacher serve all students in the class for the entire period (Blomberg, 2005). Support Facilitation is a more flexible way of providing co-teaching in the State of Florida and more commonly referred to in the literature as co-teaching, cooperative teaching or team teaching and will here out be termed co-teaching throughout this study. See Definition of Terms beginning on page 16 for more information.

The study presented here was a component of a district wide program evaluation to provide technical assistance in CER. All secondary general education social studies teachers received professional development in CER and co-teaching, if applicable. Essential to providing successful collaborative professional development opportunities is helping teachers adopt the new strategies and build them into their existing repertoire of techniques (Brownell, Ross, Colon & McCallum, 2005). Professional development in CER occurred four times, from August through May, throughout the 2005-2006 academic year. Professional development consisted of half to full day sessions and was facilitated by district CER trainers. Professional Development in Co-teaching occurred in teams of general and special educators and administrators in either May of the preceding school year or August of the 2005-2006 academic year, in preparation of the upcoming co-taught setting.

Within the district wide program evaluation, four separate research instruments were used to measure differences in student learning outcomes in co-taught and non co-taught settings

implementing CER. Teacher implementation of co-teaching was self-measured using the

Coteaching Rating Scale (CtRS) by Gately and Gately (2001). The CtRS measures eight

components of the co-teaching relationship and assists in ascertaining a developmental level of

the co-teaching team (beginning, compromising or collaborative). The second research

instrument was the CER Implementation Checklist, completed by a certified CER district trainer,

to validate use of CER in the classroom.

Teachers were systematically selected to validate use of CER in their classrooms and

were assigned numerical codes to protect confidentiality since this was not an evaluation of their

teaching but a program evaluation of the quality and implementation level of the professional

development on CER. A systematic sample of students from each participating teacher

completed CER student perception surveys about their experiences within the social studies

classroom using CER. In addition, student outcome data from teachers implementing CER in

their classrooms were collected, disaggregated by teacher and analyzed using the results of the

Florida Comprehensive Assessment Test (FCAT) in reading.

The purpose of this study was to measure the impact of service delivery (co-teaching) on

student learning outcomes (FCAT reading scores, student perception surveys) in secondary

social studies classrooms with teachers who implemented an evidence based intervention (CER).

Two groups of secondary social studies teachers implementing CER were identified who were or

were not participating in co-taught or non co-taught classrooms. Student FCAT reading data and

CER student perception survey data were collected using systematic sampling from the two

parallel groups of teachers. The first group of students participated in classrooms with teachers

who received professional development in CER and implemented both CER and co-teaching in

their social studies classrooms. The comparison group of students participated in classrooms

with teachers who received professional development in CER and implemented CER without co-teaching in their social studies classrooms.

Rationale

Recent legislation including No Child Left Behind Act (2001), Individuals with Disabilities Improvement Act (2004) and Middle Grades Reform Act in Florida (2004) have impacted accountability of outcomes for students with disabilities at the secondary level. More students with disabilities are being held to the same standards as their general education peers, resulting in increased accountability on high stakes tests (Stodden, Galloway & Stodden, 2003; Thurlow & Johnson, 2005). Evidence based instructional methods have shown to be successful with students with high incidence disabilities in a variety of service delivery settings.

Providing collaborative opportunities for teachers can also be a beneficial way of addressing the management of everyday classroom dynamics. Gately (2005) emphasizes the importance of involving two teachers at the collaborative level to enforce effective behavior and classroom management. The authors maintain the importance of modeling for students, implementing individualized behavior contracts and using tangible rewards to reinforce high expectations and positive rules for all students. Through effective collaborative co-teaching, more teachers will be better able to meet the diverse needs of all students in the classroom (Gately, 2005). The goal of fostering a collaborative environment is for all students to be successful who are taught in a co-taught model and to show academic and behavioral gains.

A variety of co-teaching models, also known as teaming, team teaching, collaborative and/or cooperative teaching (Bauwens, Hourcade & Friend, 1989) are being implemented to address the behavioral and academic issues general and special educators face educating students with mild disabilities in the general curriculum. Characteristically, co-teaching increases

instructional options for students, improves program intensity and continuity, reduces the stigma for students and increases professional support (Cook & Friend, 1995). The traditional co-teaching models give teachers the opportunity to address students' specific academic and behavioral needs while still exposing them to the content and general education setting.

Additionally, current research offers some additions to Cook and Friend's traditional models of co-teaching involving creative scheduling and the use of paraprofessionals in the classroom (Walsh & Jones, 2004). Hourcade and Bauwens (2001) describe several cooperative teaching models in four distinct stages including: teacher directed, guided practice, independent practice and individual accountability; reinforcing the fact that one model does not fit every situation. As districts begin the process of implementing co-teaching at their schools, the traditionally defined model of co-teaching may not be feasible for all settings.

Current gaps in the literature presently impact the application and acceptance of co-teaching. The impact of co-teaching at the secondary level is cautiously shown as having a moderate effect on student outcomes as shown in a meta-analysis on co-teaching (Murawski & Swanson, 2001). Murawski and Swanson found that although there is a moderate effect size for student progress favoring co-teaching, a strong research base for the impact of co-teaching as a service delivery model is needed. The research to date is lacking in quantitative measures of student outcomes with reported effect sizes. Of the 89 articles reviewed by Murawski and Swanson, only six studies provided substantive quantitative information, indicating a need for additional research to determine if co-teaching is a viable service delivery options for students with disabilities (Murawski & Swanson, 2001).

More recently, Magiera and Zigmond (2005) found 13 articles on co-teaching research that related to student achievement. In their recent study on the instructional experience of co-teaching, they found that although there was a difference in teacher interactions with students in

the co-taught classroom, the students interacted with the general educator less when the special educator was present and recommend continued research in this area. Recent research on specific case studies in co-teaching have shown that co-teaching can be an effective model for including students with disabilities in the general education setting and that academic content knowledge, high-stakes testing and co-teacher compatibility are key factors in that success (Mastropieri et. al., 2005).

The primary issue circulating the research in co-teaching is the direct effect co-teaching has on student outcomes both academically and behaviorally (Boudah, Schumaker & Deshler, 1997; Murawski & Swanson, 2001), particularly at the secondary level. In a study conducted by Boudah, Schumaker and Deshler (1997), co-taught and non co-taught settings were compared as they related to the Strategic Instruction Model (SIM) and student outcomes. The researchers found that the special educator was able to mediate the strategic learning process while the general educator was able to concentrate on content area information. Students became more effective and independent learners using strategic skills to access further knowledge and information at the secondary level.

The call for further studies including teacher performance and student outcomes across collaborative settings including strategic learning is needed. This study will add to the current body of research on using CER as part of the Strategic Instruction Model (SIM) in co-taught settings with students with mild disabilities at the secondary level.

Research Questions

The following research questions were investigated in this study:

1. Was implementation of Content Enhancement Routines observed within co-taught and non co-taught secondary social studies classrooms following professional development?

27

2. Based on teacher perceptions, what are the components of co-teaching teams who implement Content Enhancement Routines?

   a. What are the developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who implement Content Enhancement Routines?

3. Do secondary students with disabilities instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in perception of use of Content Enhancement Routines when compared to their peers in non co-taught social studies settings?

4. Do secondary students with disabilities instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in FCAT Reading performance when compared to their peers in non co-taught social studies settings?

Research Hypotheses

Null Hypothesis 1:

Implementation of Content Enhancement Routines (CER) does not occur within co-taught and non co-taught secondary social studies classrooms following professional development.

Null Hypothesis 2:

Based on teacher perceptions, collaborative co-teaching did not occur in the co-taught secondary social studies classrooms.

Null Hypothesis 3:

Secondary students with disabilities instructed in social studies co-taught settings where CER are implemented do not differ in perception of use of CER when compared to their peers in non co-taught social studies settings.

Null Hypothesis 4:

Secondary students with disabilities instructed in social studies co-taught settings where CER are implemented do not differ in FCAT reading performance when compared to their peers in non co-taught social studies settings.

Content Enhancement Routines (CER) – Teaching methods designed for use in general

education classrooms to promote learning for all students as part of the Strategic Instruction

Model (SIM) (The University of Kansas, 2006)

Co-taught setting - The most widely accepted and founding definition of co-teaching) is when

"two or more professionals deliver substantive instruction to a diverse or blended group of

students in a single space" (Cook & Friend, 1995, p.2).

Emotional Behavior Disorders – Displaying one or some of the following characteristics: an

inability to learn, an inability to maintain satisfactory relationships, inappropriate types of

behaviors or feelings under normal circumstances, a general pervasive mood of unhappiness or

depression and/or a tendency to develop physical symptoms or fears associated with personal or

school problems which adversely affects educational performance (IDEA, 2004).

Learning Disabilities - A disorder in one of the basic psychological processes involved in

understanding or using spoken or written language, which may manifest itself in an imperfect

ability to listen, think, speak, read, write, spell or do a mathematical calculation; which adversely

affects educational performance (IDEA, 2004).

Non co-taught setting – General education class with general education teacher only

Strategic Instruction Model (SIM) - A comprehensive approach to teaching adolescents who

struggle with becoming good readers, writers, and learners (The University of Kansas, 2006)

Student Academic Performance – Student performance was measured using student outcome

measures commonly seen in the literature. The student learning outcome measures used were

common to both groups and included Florida Comprehensive Assessment Test (FCAT) criterion

referenced reading scores.

Student Perception – Student perception is the act of perceiving which according to The American Century Dictionary (1995) means "observe, take notice of" (p 427). Student perceptions about the use of CER in the classroom were measured by both groups of students using a likert scaled survey created by district personnel in response to how often the students perceived using the CER in the classroom.

Support Facilitation - According to the Florida Department of Education Exceptional Education Department (FLDOE, 2004b) a Support Facilitation model classroom is defined as

> an ESE teacher provides support for ESE students' achievement. The frequency and intensity of support varies based upon students' and/or general educators' need for assistance. Support facilitators work with the general education teachers and students identified with exceptionalities as needed. (p. 3)

Assumptions

The study was based on the following assumptions:

1. All teachers were implementing CER regardless of the service delivery model of inclusion they participated in.

2. Service delivery model (co-teaching or non co-teaching) can be linked to student academic performance (FCAT Reading Scores).

3. Teachers followed the requested protocol for administering the Student Perception Surveys and sampled every n^{th} student throughout their classes to provide a systematic sample of all their students.

4. Teachers' self reports and students' accounts of the classroom were both accurate and honest in respect to their experiences with CER in co-taught and non co-taught settings.

Delimitations of the Study

Delimitations for the study include the following:

1. Only secondary social studies teachers invited to attend the professional development in March 2006 were invited to participate in this study.

2. Of teachers who attended the March professional development, eighteen teachers self-identified as participating in co-teaching in their social studies classroom.

3. The use of matched sampling in an attempt to match teachers based on eleven variables limited the sample population.

4. Time factors, conflicting schedules and use of one data collector for observations limited the visits to eleven of the thirty-four classrooms, which impact on reporting of fidelity of implementation.

5. Four of the six data collection instruments were created by the school district and were used for the first time in this study.

Limitations of the Study

One limitation of the study was the inability to take a random sample from all the secondary social studies teachers in the school district due to access restraints. The researcher only had access to a small sample of teachers provided by the school district and the student data from those teachers. Due to anonymity of teacher and student information, the researcher was not able to directly observe the teachers implementing co-teaching and CER in their classrooms. A limitation from the inability to directly observe the teachers had an impact on whether or not the teachers were implementing effective co-teaching vs. effective teaching.

An inability to interview the co-teachers directly on the impact of the co-teachers philosophy on co-teaching and their willingness to collaborate with other professionals was a limitation. A 29 % return rate on the Coteaching Rating Scale (CtRS) only offers a description of what one third of the co-teaching classroom teachers are experiencing and is only based on the sample of co-teachers who returned their surveys to the district. An additional limitation is the caution that needs to be used when interpreting the results of the CtRS data as an example of the collaborative level of all co-teachers in the study. It is recommended to review the demographic and certification information of the teachers who responded to the CtRS. Due to anonymity of student data, demographics, FCAT reading performance results and student perception survey results could not be matched.

Summary

This study explored one district's move toward providing inclusive services to all secondary students by investigating the difference between co-taught and non co-taught Social Studies classrooms implementing CER. A difference in FCAT reading performance and student perceptions was measured using federal and state accountability measures as well as individual school district procedures. A growing but limited research base on co-teaching and the impact on student performance is presented in the next chapter as well as how this study could contribute to the developing field.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The Individuals with Disabilities Education Improvement Act (IDEA, 2004) and the No Child Left Behind Act (NCLB, 2001) are two landmark legislations that are redefining the field of special education. With the recent alignment of the two acts (IDEA, 2004), together these laws set in motion the process for students with disabilities to be held accountable and educated in a rigorous standards based curriculum in the LRE.

Through standards based reform over the last decade, IDEA and NCLB have been instrumental legislative acts that have pushed policy makers, states, schools and teachers to raise expectations for students with disabilities. One primary outcome from both IDEA and NCLB is a focus on improved student performance and a more integrated model for special education (McLaughlin & Thurlow, 2003). The term *inclusion*, as defined by the National Information Center for Children and Youth with Disabilities (as cited in Burstein et al., 2004) refers to the "process and practice of educating students with disabilities in the general education classroom of their neighborhood school…with the supports and accommodations needed" (p. 104). Villa, Thousand and colleagues (2005) report that more students with disabilities than ever are being educated in the general education classroom, which opens the door for new collaborative relationships and improved access to curricula, instruction and assessment.

Mastropieri and Scruggs (2001) recommend placing an emphasis on higher level content knowledge, independent study skills and the pace of secondary classrooms as measures for successful inclusion. The authors describe successful peer mentoring, co-teaching and strategy

instruction as key elements of effective secondary inclusionary classrooms. Co-teaching refers to a type of instruction which assists successful inclusive schools to collaborate between special and general education and provide integrated services for all students (Bowe, 2005, Burstein et al., 2004; Salend et. al., 2002). A variety of co-teaching models, also known as teaming, team teaching, collaborative and/or cooperative teaching (Dieker & Murawski, 2003) are being implemented to address the behavioral and academic issues general and special educators face educating students with mild disabilities in the general curriculum.

Characteristically, co-teaching increases instructional options for students, improves program intensity and continuity, reduces the stigma for students and increases professional support (Cook & Friend, 1995). The traditional co-teaching models give teachers the opportunity to address students' specific academic and behavioral needs while still exposing them to the content and general education setting. Both Dieker and Little (2005) and Mastropieri and Scruggs (2001) emphasize the benefits of incorporating strategy instruction into a successful co-teaching partnership for maximum benefits. Secondary students with disabilities respond to the use of strategic learning and content enhancements to engage students in the learning process and connect to previously learned knowledge (Deshler et al., 2001)

Deshler and colleagues (2004) at the University of Kansas Center for Research and Learning have researched validated instructional strategies and routines as effective instructional practices to help students with disabilities in the general education classroom at the secondary level. Content Enhancement Routines (CER) as part of the Strategic Instruction Model (SIM), are taught in the general education classroom and used to enhance comprehension and understanding of the material (Deshler et al., 2004). This study examined differences in student learning outcomes with the implementation of CER in secondary social studies co-taught and non co-taught classrooms.

This literature review provides readers with an overview of a) standards based education, b) inclusion, c) co-teaching, and d) CER. This chapter ends with the present status of student learning outcomes in co-taught secondary classrooms implementing CER, as well as providing readers with how these issues impact student learning outcomes in co-taught classrooms implementing CER at the secondary level.

Secondary Reform and Standards Based Education,

The current status of education in America is undergoing examination for inadequate preparation of students to higher standards and increased accountability of teachers. The increased accountability comes at a time when the focus on student outcomes has intensified with the federal No Child Left Behind Act (NCLB, 2001). With this legislation, highly qualified teachers are to use evidence based instructional practices in their classrooms to improve student outcomes. The emphasis on evidence based practices comes from the concern that considerable distance exists between research and daily classroom practice and that effective, evidence based instructional practices are not being used in schools (Odom et al., 2005). The National Council on Disability (NCD) states that some teachers do not use effective evidence based practices due to lack of time and inadequate support of administrators (2004). The National Council on Disability (NCD) acknowledges that pressures associated with high stakes testing and lack of in depth information also contributes to a misuse of effective evidence based practices.

Five years after the enactment of NCLB, students with disabilities continue to be an important factor in school accountability as school districts are restructuring their programs to meet the needs of all students. In relation to NCLB, one component of the act was to close the achievement gap between all subgroups of students. According to the developers of NCLB, one way states measure whether or not students are learning is a measure of Adequate Yearly

37

Progress (AYP). Typically, states measure AYP with results from high stakes testing. The

National Council on Disability (NCD, 2004) gathered information aligned with the goals of

NCLB and IDEA to see how policy is affecting outcomes for students with disabilities, including

AYP. Especially concerned with AYP, the NCD is interested with how students with

disabilities, especially severe disabilities, will meet the necessary components of AYP. The

National Council on Disability also emphasized other ways to measure AYP including

performance assessment and the development of workplace competencies.

According to the most recent Quality Counts (Education Week, 2006), overall student

achievement has improved over the last decade as the movement toward a standards based

curriculum has heightened. However, the same can not be said for reading specifically, as the

overall national average barely improved. In both math and reading, the gap narrowed when

considering specific AYP student subgroups of ethnicity and Social Economic Status (SES).

Overall, based on the information gathered from a sample of students in fourth and eighth grade

in each state, the report indicates that standards based education contributes to an increase in

student achievement. A key component of the standards based education movement is

assessment and the implications of high stakes testing.

High Stakes Testing

Another ramification of secondary reform and a standards based curriculum is

accountability, measured and reported through the use of high stakes testing. High stakes testing

is a standard of measurement sweeping the nation due to the current legislation of NCLB (2001).

School systems have increased the emphasis on high-stakes testing outcomes, offering rewards

and liabilities to hold teachers and students accountable for their learning. High stakes testing as

a form of assessment is commonly used for graduation and diploma options for secondary

students, which can affect their post school options and outlook (Carter et. al., 2005). Thurlow and Johnson (2005) state that the results of high stake tests help stakeholders make decisions about curricular, instructional or intervention strategies, and initiates professional development support for teachers. Carter and colleagues (2005) recently reviewed the literature about the effects high stakes testing can have on students with disabilities. They found that the results of high stakes testing may cause an increase in referrals into special education, a lowered expectation of learning, a focused instruction on the test, a direct teach to the test, a limited option for electives due to increased remediation, an increase in frequency of retention and an increase in dropout rates. The findings present a challenge in educational reform and meeting the needs of students with mild disabilities. One recommendation by Stodden and colleagues (2003) is to align standards based content curriculum with assessment outcomes at the school, state and national levels by incorporating special education teacher input and participatory action teaming.

Darling-Hammond (2004) argues for a broader purpose of accountability for standards based reform from high-stakes testing accountability and return the focus to improvement of effective teaching and student learning. She reiterates the need for accountability that improves student learning, not just assesses it. She states that there are at least three major areas where accountability needs attention:

1. Ensuring teachers have the knowledge and skills they need to teach the standards
2. Providing school structures that support high quality teaching and learning
3. Creating processes for school assessment that can evaluate students' opportunities to learn and can leverage continuous change and improvement (p.1079).

Secondary Inclusion of Students with Mild Disabilities in General Education

History and Legislation

The Least Restrictive Environment (LRE) component of the 1975 legislative Education of All Handicapped Children Law, PL 94-142 states that all students with disabilities should be educated on a continuum of services to best meet the needs of the individual child to provide them with an appropriate education. The continuum consists of a range of services including a residential school, a separate day school, a separate class placement within a regular education school, a resource room placement within a regular education school, a general education placement with consultation within a regular education school and a general education placement without consultation within a regular education school. The Least Restrictive Environment (LRE) does not mean all students should be educated in the general education environment all of the time, nor should they be educated in one place over another, but in the setting which best meets their individual needs throughout a school day, which could vary (Bowe, 2005). However, the primary goal of IDEA is to include individual students in general education settings to the maximum extent possible with the consideration of the best interest of each child. The emphasis has been on "inclusion" or "inclusive education" during the last decade.

One of the most widely acknowledged definitions of inclusion, developed by the National Center on Educational Restructuring and Inclusion (NCERI), states that inclusion is:

Providing to all students, including those with significant disabilities,

equitable opportunities to receive effective educational services, with the

needed supplementary aids and support services, in age appropriate

classrooms in their neighborhood schools, in order to prepare students for

productive lives as full members of society (1995, p.99).

Although the inclusion of students with disabilities into general education settings

initially began well before the 1980's, in response to PL 94-142 and LRE, students with

disabilities were beginning to be accepted and included in general education classes, mainly

electives and lunch, a process termed "mainstreaming" (Zigmond, 2003). After the Regular

Education Initiative (REI) in the 1980's, educational placements began to increasingly provide

students in exceptional education with instruction with their typical peers in the general

education setting (Will, 1986). As inclusion of students with disabilities in general education

evolved, supports and services were provided to help students and teachers become successful in

the general education setting. Schools began to look at a variety of service-delivery options in

order to meet the individual needs of a diverse group of students as well as meet the legal

requirements placed before them. Throughout the last 20 years, research in special education has

focused on best practices for providing inclusive education for students with disabilities.

Best Practices of Inclusion in Secondary Settings

Inclusion is a broad term with multifaceted layers, depending on individual differences

within students, families, schools, school districts and states. The practice of inclusion first

considers general education as the place of learning for all children (Villa & Thousand, 2003).

Taking into account the continuum of inclusion, particularly at the secondary level, inclusion

guarantees access to the general education curriculum and benefits students socially (Mastropieri

& Scruggs, 2001). Through extensive work with teachers and families, Mastropieri and Scruggs

(2001) identified seven variables as identifiers of successful inclusion. The variables are as

follows: a) providing administrative support,b) providing special education personnel support, c)

41

providing a positive classroom atmosphere, d) providing an appropriate curriculum, e) providing

effective general teaching skills, f) providing peer assistance, and) providing disability-specific

teaching skills.

Villa and colleagues (2005) recently interviewed inclusive educators at the high school

level and found 6 best practices in secondary inclusive education. The identifying characteristics

of successful inclusive schools include: administrative support, continuous professional

development, collaboration, communication, instructional responsiveness and comprehensive

authentic assessment approaches. The key to providing a rewarding environment is positive

collaborative relationships amongst general and special educators, including supporting the

teachers and staff (Villa et al., 2005).

Additionally, Villa and colleagues (2005) propose that best practices in inclusion begin

with a systems approach. A systems approach includes making a connection with other best

practices already in place, creating a visionary leadership and administrative support, redefining

roles and relationships among adults and students, collaborating and continuing additional adult

support as needed. Incorporating evidence based practices into already existing support

structures, such as collaboration and team teaching, ensures a successful program for all students.

Administrators need to accept and embrace an inclusive philosophy, reiterating to the school

community that inclusion is not an additional program, but an effective practice for all students

(Villa et al., 2003).

Scruggs and Mastropieri (1996) analyzed several surveys about teachers' perceptions of

inclusion and matched the results up with research from the classroom to find several

overlapping implications for practice. The authors suggest that teachers need: time to plan

effectively, an opportunity to receive professional development in how to provide services to

students with disabilities, additional personnel resources, materials resources, manageable class

sizes, and a consideration of severity of disability as students are considered for placement (Scruggs & Mastropieri, 1996).

In the continuum of special education service delivery models, instruction takes many forms at the secondary level. Special education teachers at the secondary level may provide either direct or indirect services as consultants to the general education teacher. They may take the role of a co-teacher in the general education classroom, instructor in a pullout or resource class, or instructor in a self-contained class (Zigmond, 2003).

Challenges of Inclusion in Secondary

Secondary inclusion poses many challenges to its implementers. Scheduling, teaming, increasing expectations of pre-existing knowledge, requiring a stronger focus on independent skills and increasingly high case loads makes inclusion at the secondary level difficult. What seems to be one of the greatest challenges in secondary inclusion is an inconsistency in inclusive practices from school to school. For example, students leave one type of inclusive setting at the elementary level and go to a different more or less inclusive setting at the middle school level and yet a third type of setting at the high school level; an issue Dieker (2001) terms "disjointed service delivery" (p 14). In response to this challenge, Dieker offers five steps to ensure consistency when implementing inclusion: a) start small but ensure key players within and across grade levels are involved, b) involve children and their families in the process, c) develop a comprehensive plan for change across the school and school district, d) focus on preparing students and their families as well as staff, and e) continuously evaluate the plan.

Another challenge to providing inclusive education at the secondary level is time constraints (Zigmond & Baker, 1996). Teachers report that students need more intensive, individual instruction. However, they don't always receive individual instruction in secondary

inclusive settings due to a lack of common planning, a difficulty in providing adaptations and a failure to make an impact on long term goals (Walther-Thomas, 1997; Zigmond & Baker, 1996). Meeting the diverse academic and behavioral needs of students with mild disabilities at the secondary level in the general and special education setting can be a complex task to accomplish. Some challenges unique to the secondary level in general include: a broad complex curricular material involving content and careers/vocations, an increase in gaps in student skills, a teacher centered learning environment with large numbers of students, a focus on adolescent development, additional pressures from outside agencies and autonomy in teaching (Cole & McLeskey, 1997).

In response to NCLB and IDEA, the changing dynamics in schools at the national, state and local level has a direct impact on the education of all students, particularly students with disabilities. The process of including students with disabilities into general education classes at the secondary level is not new. However, it is currently evolving with the increased pressure of accountability of student learning and implementation of evidence based practices to meet the needs of all students. In addition, Schumaker and colleagues (2002) studied nine high schools who were involved in a case study through the Institute of Academic Access, to examine a variety of components related to curriculum, instruction and assessment in the general education class for students with disabilities. One reality amongst the findings was that the textbooks in the core academic classes that the students with disabilities were enrolled in and expected to master were typically 5-7 years above their reading ability level. The expected reading proficiency mirrors the challenges students with disabilities face in the content area classes without support.

Characteristically, student learning at the secondary level has a heavy content focus; utilizing pre-existing reading, writing and math skills independently (Shumaker & Deshler,

1995). Students are expected to take in a breadth of knowledge, synthesize it and generalize it to other courses and learning situations. Content area special education curriculum at the secondary level should be a reflection of the general education curriculum if students with disabilities are working toward a standard diploma and expected to be held accountable for performing on grade level as stated in current legislative movements. However, other factors need to be considered when working with the general education curriculum, namely how the students will gain access to the knowledge. Regardless of the type of inclusive setting, the special educator must first be an effective teacher and engage students in the learning process. The next section discusses the similarities and differences between effective co-teaching and effective teaching in general.

Co-teaching vs. Teaching

Co-teaching involves at least 2 professionals planning, teaching, assessing and evaluating students by making decisions and collaboratively working together. Effective co-teaching then, can be easy to define but harder to achieve. Effective co-teaching includes teachers who foster a cooperative and caring learning environment that promotes individual differences and socialization, and teachers who use a variety of instructional arrangements when possible, such as team teaching, cross age grouping and peer tutoring (Bauwens, Hourcade & Friend, 1989; Cook & Friend, 1992; Dieker, 2001; Pugach & Johnson, 2002). Effective co-teaching involves: effective interpersonal communication, the creation of an accepting climate of "our" students, the appreciation of each others curriculum expertise and the collaborative definition of the essential knowledge. In an effective co-teaching relationship, accommodations and modifications are made routinely and without resistance. Continuous and collaborative planning takes place while teachers share responsibilities and instructional presentation. Both teachers are seen as equals

and more importantly they feel like equals and are involved in behavior management and assessment of students (Gately & Gately, 2001; Pugach & Johnson, 2002).

On the other hand, effective teaching (Haberman, 2004) begins with persistence and strong physical and emotional stamina. Effective teaching includes teachers who facilitate a caring relationship with their students, have a commitment to acknowledging and appreciating student effort, have a willingness to make mistakes, focus on deep learning, and make a commitment to inclusion (Haberman, 2004). Effective teachers know more than subject matter. They know how to connect to today's adolescents who may face challenges in their home life and bring with them a high tech learning style (Berry, Hoke & Hirsh, 2004). Effective teachers provide increases in academic engaged time, effective evidence based instructional practices, supportive encouraging environments and continuous feedback to their students on an ongoing basis.

Teachers, who have the knowledge, support and skills needed to make accommodations for individual students, will have a greater success than teachers who are unwilling or lack the necessary skills to accommodate (23rd Annual Report to Congress, 2001). Deshler and colleagues (2001) recommend several strategies teachers can use to improve the instructional practice of students with disabilities including a) involving students in the learning process, b) showing them how to process information, c) using specially structured materials to teach difficult information and d) providing students with helpful feedback and further instruction as needed.

Existing research in the area of effective co-teaching concentrates on the *process* of co-teaching; more specifically the definition, how to implement, barriers one may face and strategies to overcome barriers. Increasingly, research is focusing on how the process of co-teaching is impacting student performance, both academically and behaviorally (Welch,

Brownell & Sheriden, 1999). However, there is a limited research base on how co-teaching

benefits teachers and students with and without disabilities (Trent et al., 2003).

A few evidenced-based studies on co-teaching exist that are related to implementation,

instructional practices and effectiveness on student outcomes, particularly at the secondary level

(Weiss & Lloyd, 2002; Zigmond & Baker, 1996). Weiss (2004) discusses co-teaching and the

implications for implementing co-teaching when there is a lack of research on the effectiveness

of the service delivery model and how co-teaching is impacting student outcomes. Some of the

opposition to co-teaching stems from a belief that the acceptability of co-teaching is outpacing

the data and that more positive research studies are needed to demonstrate co-teaching's success

in delivering appropriate instruction (Trent et al., 2003; Weiss, 2004; Zigmond & Baker, 1996)

More recently, research has compared co-taught settings by looking at various models of

implementation (Gerber & Popp, 2000; Magiera & Zigmond, 2005; Pugach & Johnson, 2002).

However, measuring student behavior and academic outcome is a difficult task. The impact of

co-teaching at the secondary level is cautiously shown as having a moderate effect on student

outcome as shown in a meta-analysis on co-teaching (Murawski & Swanson, 2001). Murawski

and Swanson found that although there is a moderate effect size for student progress favoring co-

teaching, a strong research base for the impact of co-teaching as a service delivery model is

needed. The research to date is lacking in quantitative measures of student outcomes with

reported effect sizes. Of the 89 articles reviewed by Murawski and Swanson, only six studies

provided substantive quantitative information, indicating a need for additional research to

determine if co-teaching is a viable service delivery option for students with disabilities

(Murawski & Swanson, 2001).

The difficulty in assessing student behavior and learning in co-taught settings is in part

due to recurring themes seen throughout the literature (Dieker & Murawski, 2003; McLeskey,

47

Hoppey, Williamson & Rentz, 2004; Nowacek, 1992; Trent et al., 2003; Weiss & Lloyd, 2002; Zigmond, 2003) concerning variability of implementation of co-teaching, especially at the secondary level. One way to streamline implementation of co-teaching is to prepare general education teachers in teacher preparation programs (Dieker & Murawski, 2003) to be effective collaborators (Dieker & Little, 2005). Dieker and Murawski (2003) stated that most secondary teacher preparation programs focus on strong content mastery whereas special education programs have little preparation in specific content knowledge and more preparation in learning differences. Suggestions for further research in implementing co-teaching include creating policies and practices that result in on-going professional development in the area of co-teaching while documenting the implementation process (Trent et al., 2003).

Co-Teaching at the Secondary Level

In 1989, Bauwens, Hourcade and Friend described successful collaborative practices occurring in education and observed cooperative teaching as it emerged in some educational settings as early as the 1960's. They described cooperative teaching in which general and special educators would teach together to meet the needs of all students in the general education setting. Team teaching was surfacing with teachers planning together as they began to see the benefits of two teachers working together to meet the needs of all students (Cook & Friend, 1995).

Cook and Friend refined the term co-teaching and defined the model more clearly, with examples, suggestions and additional information (Cook & Friend, 1995). The authors suggested that although team teaching had been around since the 1970's, the model needed clarity, guidance and fine-tuning to best meet the needs of everyone involved, including general and special education students and teachers in the general education classroom. Cook and Friend

(1995) focused primarily on general and special educators or specialists working together in one classroom to teach and meet the needs of a diverse group of students.

In 2001, Hourcade and Bauwens defined cooperative teaching as two separate professionals (most commonly a general and special educator) each with distinct skills providing direct collaboration to teach a common group of diverse students in the general education classroom, encouraging all educators to be responsible for all students. In cooperative teaching, general and special education teachers and paraeducators could be used where their talents and aptitudes excel. Particularly, cooperative teaching includes all phases of learning: initial instruction, guided practice, independent practice and maintenance. While cooperative teaching as a service-delivery option began to take shape, researchers began to provide strategies to implement the model in a general education setting to meet the needs of all students in the Least Restrictive Environment (Hourcade & Bauwens, 2001).

Although co-teaching as a service delivery model was often used to facilitate increased inclusion of students with disabilities in general education classrooms, co-teaching is not synonymous with inclusion, meaning they are not considered one in the same. The term *inclusion*, as defined by the National Information Center for Children and Youth with Disabilities (as cited in Burstein et al., 2004) refers to the "process and practice of educating students with disabilities in the general education classroom of their neighborhood school…with the supports and accommodations needed" (p. 104). *Co-teaching* refers to a type of instruction which assists successful inclusive schools to collaborate between special and general education and provide integrated services for all students (Bowe, 2005; Burstein et al., 2004; Salend, Garrick, & Duhaney 2002). *Inclusive practices* are a process, a routine or a way of educating all students in the school setting to benefit students with and without disabilities. The next section

49

will provide review of the various models, strategies and best practices for co-teaching from recent literature.

Co-teaching Models

With co-teaching as two professionals meeting the needs of students in special education within the general education classroom, each student's individual needs should be taken into consideration. When restructuring a program, factors to consider include whether the content of the curriculum is appropriate, the type and extent of support offered, the accommodations and modifications the students will need, the makeup of the general education classroom and whether or not the students need direct instruction different from what is being taught in the general education classroom (Cook & Friend, 1995).

As previously stated, co-teaching takes the form of a variety of models and styles to best meet students' needs, curricular needs and the co-teachers' situation. Some common approaches to co-teaching include:

1. One lead, one assist - where one teacher leads instruction and one teacher assists students as needed

2. Station teaching - which involves both teachers teaching a concept or skill and students or teachers rotating

3. Parallel teaching - which incorporates both teachers teaching the same concept to two groups side by side

4. Alternative teaching - which utilizes one teacher to reinforce or re-teach skills while the other teacher teaches a large group and team teaching with both teachers teaching one group together

5. Team Teaching – Both teachers share the planning and instruction of students in a coordinated fashion (Cook & Friend, 1995; Dieker, 2001; Friend, Reising & Cook, 1993).

In addition, the changing dynamics of today's inclusive classroom finds educators in an era of standards-based reform, increased accountability and high stakes testing, with an often limited budget of resources (Walsh & Jones, 2004), Diverse classrooms may require co-teachers to be more creative in how they provide instruction to students, especially at the secondary level. Dieker (2001) studied a variety of effective co-teaching teams at the secondary level and found that some teams had to be very creative in switching between traditional co-teaching options, such as parallel teaching, alternative teaching, team teaching and station teaching to meet the behavioral challenges of some of the students on their team, while others found alternative settings to be most effective

Best Practices for Co-teaching

Research has improved over the last few years in an effort to pinpoint what effective co-teaching looks like. Dieker (2001), through a careful selection process, studied 9 co-teaching teams at the secondary level that served students with varying exceptionalities. Through this extensive research process, she identified 6 common characteristics considered essential for creating a positive co-teaching environment.   These characteristics include: a) creating a positive climate, b) creating a positive perception of co-teaching by all members, c) active learning, d) high expectations for both academic and behavior performance, e) planning, and f) use of multiple methods used to evaluate student progress. Through her work, Dieker (1998; 2001) observed all teachers and peers accepting the students with disabilities as part of the classroom.

51

Dieker and Little (2005) reinforce the notion of keeping what is "special about special education" (p. 280) as part of the co-teaching collaborative model to ensure students are still receiving the specific skills necessary to learn the content. Without consistent collaborative planning, the remediation and intensive instruction a special educator provides would not be as beneficial to all the students. In an unpublished study cited in Mastropieri and Scruggs (2001), Hardy observed 4 high school co-teaching teams and found several factors to be considered as best practices for co-teaching. Among the findings "…the teachers employed a set routine, held clear expectations and procedures, communicated clearly with students and their families, were flexible, had high expectations for all students, and demonstrated excellent classroom behavior management skills" (Mastropieri & Scruggs, 2001, p. 7).

Further research into successful best practices in co-teaching consists of eight components of the co-teaching relationship that contribute to a successful collaborative relationship and learning environment (Gately & Gately, 2001). The eight components are: a) interpersonal communication, b) physical arrangement, c) familiarity with the curriculum, d) curriculum Ggoals and modifications, e) instructional planning, f) instructional presentation, g) classroom management, h) assessment. Through incorporation of these eight components, teachers form a successful collaborative relationship leading to best practices in co-teaching as a service delivery model of inclusion.

Challenges of Co-teaching at the Secondary Level

As with any innovative practice, challenges present themselves along the way; which guide us in revisiting best practices and collecting data to make educated decisions. Several best practices in co-teaching can also turn around to be challenges if not supported or implemented correctly. Some of the greatest challenges to co-teaching include: teacher complaints about not

enough planning time, lack of specific professional development and resources, lack of content knowledge at the secondary level, difficulty with teacher compatibility and lack of support with administrators and within the school community (Cook & Friend, 1995; Dieker, 2001; Mastropieri et al., 2005, Walther-Thomas, 1997). Challenges for service delivery for secondary special educators include a broad complex content curriculum which is not evident in the earlier grades (Cole & McLeskey, 1997; Dieker & Murawski, 2003; Mastropieri et al., 2005). In addition, at the secondary level, teachers report being challenged with a wider gap between general and special education students. Teachers are less likely to make accommodations due to large class sizes and have concerns about student accountability with high stakes testing (Dieker, 2001; Dieker & Murawski, 2003; Zigmond, 2003).

In addition and in support of previous research, Keefe and Moore (2004) held semi-structured interviews of 8 secondary general and special education teachers to investigate common challenges at the secondary level. Three major themes emerged from the interviews: the roles of the teachers, the nature of collaboration and the outcomes for students and teachers. The authors found that the challenges to a successful co-teaching secondary inclusive environment can be broken down into three categories: 1) adequate preparation, 2) adequate professional development and 3) ongoing support (Keefe & Moore, 2004). Although presented with challenges, co-teaching at the secondary level can be a supportive and viable service delivery option for students with disabilities.

Supporting a Collaborative Environment

The numerous challenges to co-teaching and inclusive settings presented in the last decade have reminded educators that it is critical that the teachers, staff, students and families are adequately prepared to move from a community in isolation to a community in collaboration.

53

Cook and Friend (1995) emphasize the importance of pre-service programs and professional preparation to create a successful collaborative environment for everyone involved. Additional skills need to be taught and practiced before teachers can be willing collaborators and effective communicators. Teachers may need additional knowledge in specific content areas, specific disabilities, instructional and cognitive strategies, and how to maintain a positive collaborative relationship (Bauwens & Hourcade, 1991; Cook & Friend, 1995; Dieker, 2001; Gately & Gately, 2001; Weiss & Lloyd, 2003). Dieker (2001) reiterates the importance of creating a positive classroom environment. Having teachers choose to participate, embrace their students, set up peer supports and offer a continuum of services to meet individual needs is crucial to collaborative success.

When professional preparation has taken place prior to creating a collaborative environment, teachers feel more successful and positive about the inclusion model. Weiss and Lloyd (2003) conducted a case study on conditions for co-teaching and found that special education teachers who: had confidence in their content area, had some choice in participation and had an opportunity to work with the general educator, were more apt to participate in instructional delivery of all students.

After initial professional development and the co-teaching relationship is underway, teachers need ongoing support to create and maintain working relationships, and to enhance effective teaching and evaluative practices. In their research with teachers, Cook and Friend (1995) found that the most successful professional development occurs when teachers have the opportunity to implement what they have learned. It is important to broaden the role of the special educator from classroom assistant to content enhancement expert. Through ongoing professional development, special educators can become more comfortable with the content and general educators can become more confident accommodators.

In addition to professional development, teachers need to have regular ongoing support. Through a supportive work environment with a reduced caseload and ongoing administrative support, teachers will be better able to engage in consistent collaborative planning time and provide assistance with student scheduling and conflicts (Murawski & Dieker, 2004; Pugach & Johnson, 2002; Walther-Thomas, Korinek & McLaughlin, 1999). Supporting a positive climate of high expectations for academics and behavior, teachers and students will feel more success. In addition, teachers will be more apt to support students with their Individual Education Plan (IEP) goals; setting students up for success instead of failure (Dieker, 2001; Pugach & Johnson, 2002).

Co-teaching and Student Learning Outcomes at the Secondary Level

Increasingly, students with disabilities are receiving inclusive services in general education classrooms using a standards based curriculum with evidence based practices to increase student learning outcomes (Mastropieri et al., 2005). Co-teaching is one way to deliver inclusive services using a standards based content area curriculum for all students in one setting. With the collaboration of a special education co-teacher to assist all students in the general education setting, the question arises as to whether differences are being seen in student learning outcomes in a co-taught setting as compared to a non co-taught setting.

Over the last fifteen years, a handful of research studies have been documented which target co-teaching as it relates to student learning outcomes at the secondary level. Dieker (1998) examined one secondary general education social studies teacher and one special educator who chose to co-teach one period during the typical school day. The class was made up of six students with disabilities and eighteen general education students. To measure student learning, the team implemented and documented pre/post 1st and 3rd quarter comparison teacher made

55

exams. The average score for the pretest students with disabilities was 26 out of 80 and general education students earned an average of 39 out of 80 points. The students' scores jumped from the pre to the post measurement to 73 out of 80 points for students with disabilities and 75 out of 80 for general education students.

Similarly, recent research completed by Rea, McLaughlin and Walther-Thomas (2002) looked at student learning outcomes in two different classroom settings at two suburban middle schools; a co-taught setting with two teachers delivering instruction in one classroom and a pullout setting where students were pulled out of the general education classroom for instruction. Data were collected from all eighth grade students with learning disabilities who had been in their school program for at least two years at two comparable middle schools with different inclusion models in place. Students were compared for differences in academic performance, behavior and attendance. End of year scores were used for each content area, state assessments, students' behavior infractions and school attendance.

The authors (Rea et al., 2002) found that the outcome for students with learning disabilities was higher when placed in a co-taught inclusive setting. Specifically, students with learning disabilities in inclusive settings earned higher course grades in their content areas (Language Arts, Math, Science and Social Studies) and higher scores on the language (mean = 143.2, SD = 18.698) and mathematics (mean = 150.2, SD 18.301) portion of their eighth grade test of basic skills than their peers in pull-out classrooms (language subtest mean = 130.9, SD = 19.448 and mathematics subtest mean = 139.9, SD = 12.100), resulting in a significant mean difference in language of 12.3265 (t = 2.31, p = .025) and mathematics of 10.3353 (t = 2.25, p = .029). However, the students with disabilities earned comparable mean scores on the reading comprehension, science, and social studies subtests of basic skills in both settings. Students with learning disabilities in inclusive settings scored comparably on the reading, writing and math

state proficiency test as compared to students in the pull-out setting. Students with learning disabilities in inclusive settings received the same number of behavioral infractions, and attended more days of school than their comparable peers in the non co-taught setting.

In addition, Walsh and Snyder (1993) studied 343 students in 15 co-taught and 362 students in 15 general education 9th grade Science, Social Studies, Math and English classrooms. The classrooms were located within six comparatively diverse high schools in the same school district. The researchers found significantly higher passage rates on statewide minimum competency tests by students in co-taught high school classes compared to students in similar general education classes. No difference was found in semester grades between all 4 subjects, however when looking at Language Arts alone, lower grades were found in the co-taught setting. There were no significant differences in attendance overall, however attendance rates were higher specifically in the co-taught Math settings as compared to the non co-taught math settings. Finally, no significant differences existed in behavior infractions; however there were reportedly lower discipline referrals in the Social Studies co-taught classes.

Conversely, in a three year multi-site study of inclusion models in schools, Zigmond and colleagues (1997) studied 145 students in three different states implementing various inclusive models in one academic year. The first site implemented co-teaching and co-planning, the second site integrated pull-in services and the third site reintegrated their students with disabilities into the general education classes while maintaining pull-out services for those students who needed it. Various planning and support services took place at each site over one academic year. The authors found approximately half (54%) of the 145 students with learning disabilities made gains in excess of one standard error of measurement, which meant that they failed to make a gain in reading achievement on the Basic Academic Skills Survey that was larger than the error associated with the test. While an average of 37% of the students made

average or better gains than their general education peers, 63% did not make average size achievement gains.   In addition, 40% of the students with learning disabilities who were being educated full-time or primarily in general education settings not only were failing to make average gains, but were also slipping behind

Many research articles exist on process, interpretations and perspectives of co-teaching, however there is a limited amount of research in the area of student learning outcomes in co-taught settings at the secondary level. In a meta-analysis on co-teaching, Murawski and Swanson (2001) found six articles which provided substantive quantitative information on co-teaching, indicating that further research is needed in the area of co-teaching as a viable service delivery option for students with disabilities at the secondary level. Overall, the previous studies present a positive glimpse of student learning outcomes in a variety of co-taught settings. However, much more quantitative student outcome data is needed to present a stronger case for implementing co-teaching at the secondary level. In addition, emphasis has been placed on the benefits of incorporating strategy instruction into a successful co-teaching partnership for maximum benefits (Dieker & Little, 2005; Mastropieri & Scruggs, 2001). Secondary students with disabilities respond to the use of strategic learning and content enhancements to engage students in the learning process and connect to previously learned knowledge (Deshler et al., 2001)

Content Enhancement Routines (CER) at the Secondary Level

In order for students with disabilities to be successful within the general education classroom, something more than the traditional teaching method has to take place. Co-teaching models of service delivery give teachers the opportunity to address students' specific academic and behavioral needs while still exposing them to the content and general education setting. In

addition, teachers need to begin to teach students how to think, how to respond to content and how to learn. As described by Mastropieri and Scruggs (2001), teachers who use a self-instruction sequence of specific steps to teach students how to learn are more successful in their teaching than teachers who do not give students explicit steps.

The Strategic Instruction Model (SIM) is a comprehensive approach to adolescent literacy that addresses the needs of students to be able to read and understand large volumes of complex reading materials. The Strategic Instruction Model (SIM) promotes effective teaching and learning of critical content in schools. The Strategic Instruction Model (SIM) is an evidence-based instructional practice researched for over 25 years, to enhance secondary content material which encompasses teacher-focused interventions and gives students the tools necessary to learn the content (Lenz & Deshler, 2004). The Strategic Instruction Model (SIM) enhances understanding of the content for students with disabilities and provides an avenue for success in the secondary general education classroom. Lenz and Deshler (2004) have completed extensive field-tested research in strategic instruction at the University of Kansas Center for Research and Learning. One component of SIM is CER which includes: graphic organizers; instruction that is intensive, explicit and well organized; the use of a way to focus on key concepts and principles; the use of highly focused direct instruction; strategy instruction; the use of mnemonic strategy instruction and a process for monitoring student progress, all integrated into one model (Deshler et al., 2001).

Content Enhancement Routines (CER) are one intervention organized into four categories of assisting teachers with: thinking about and organizing the content; explaining the text, topic and details; demonstrating complex concepts and vocabulary, supporting work completion in their classroom. Verified by research, instruction of the routines needs to be consistent, explicit and used repeatedly for success (Lenz & Deshler, 2004). Table 1 describes CER developed by

the University of Kansas Center for Research and Learning. These routines have been shown to benefit both students with and without disabilities in the general education setting (University of Kansas, 2006).

Table 1

List of Content Enhancement Routines (CER) and Their Use in the Classroom

Purpose	Routine
To plan and lead learning	The Course Organizer Routine
	The Unit Organizer Routine
	The Lesson Organizer Routine
To explain the text, topics or details	The Clarifying Routine
	The Framing Routine
	The Survey Routine
To teach complex concepts	The Concept Anchoring Routine
	The Concept Comparison Routine
	The Concept Mastery Routine
To enhance student performance in the classroom	The Quality Assignment Routine
	The Question Exploration Routine
	The Recall Enhancement Routine
	The Vocabulary LINCing Routine

Deshler and colleagues (2001) recommend using validated leveled interventions, such as CER and embedded strategy instruction, as ways to help students with learning disabilities achieve passing levels on state achievement tests. All CERs follow an explicit teaching framework of a *Cue, Do, Review* phase of learning. During the "Cue" phase, the teacher cues the

students into the lesson and into using the specific routine. Throughout the "Do" phase the teacher does the routine with the students following the steps of the specific routine. In the "Review" phase, the teacher reviews the key concepts from the lesson using the specific routine (Deshler et al., 2001). When teaching learning strategies, as with other cognitive instruction, Deshler (1996) stresses the importance of following guiding principles to make sure students become proficient in the strategy and are able to generalize it to other settings.

Content Enhancement Routines and Student Learning Outcomes

One way to provide students with support in other settings such as the general education classroom is through the implementation of CER. Numerous research studies have been conducted demonstrating effectiveness in using CER, primarily with middle and high school students with and without disabilities. Several studies researched at The University of Kansas Center for Research on Learning on implementing CER at the secondary level date back to the 1980's (University of Kansas, 2006). More recently in 2000, Bulgren and Deshler conducted two studies utilizing the Concept Anchoring Routine in Secondary Science and Social Studies classrooms.

The first study included a total of 83 students and three teachers teaching a total of eight classes. The classes were randomly assigned to one of two treatment conditions. Each class, regardless of the treatment group, learned the same four related concepts around a theme, which the students had limited previous knowledge. Scripts and specific directions were created for the instructor from The Center for Research on Learning to follow with each of the eight classes. Depending on the treatment group (Condition 1 or Condition 2), one of the four concepts was enhanced with use of the Concept Anchoring Routine. So in essence, all students were exposed to the routine just with the presentation of a different concept. Specifically for the students with

61

learning disabilities, on concept one 36% passed a multiple choice test when using the routine and conversely, only 12% passed when not using the routine; and with a second concept, 77% of students with learning disabilities passed the concept when using the routine and 27% without the routine. Effect size and significance level were not reported for this study.

In the second study using the Concept Anchoring Routine, ten teachers and one hundred ninety-three students participated in a multiple baseline study across teachers. Since the ten teachers were implementing the routine this time in their classes instead of one uniform instructor from the Center for Research on Learning, the researchers used a 12 point implementation checklist to measure level of implementation of the routine in their classes. The teachers and students also completed satisfaction surveys on a Likert scale about the use of the routine in their classes. The checklist demonstrated a high level of fidelity across classes, teachers reportedly were satisfied with the use of the routine and the students were neutral on their opinion of the use of the routine. Effect size and significance level were not reported for this study.

A third study utilized the Unit Organizer Routine (as reported in Boudah & Lenz, 2000) with six secondary inclusive Science and Social Studies classes focusing on eight students with learning disabilities, low achieving and average achieving students over a seven month period. The students in classes where the teachers used the routine consistently scored an average of 15 percentage points higher than comparable students who didn't use the routine, specifically with more difficult and abstract material. Effect size and significance level were not reported for this study.

In a study utilizing the Comparison Routine, Bulgren and colleagues (2002) researched one high school and two middle schools for a total of 107 students enrolled in seventh through twelfth grade science classes. The students volunteered for the study and were randomly

assigned to either the treatment (*n=55*) who used the Comparison Routine or the control group (*n=52*) who did not use the routine. Students were then tested on recall and recognition of information. A multivariate analysis of variance was conducted to include students' category and experimental condition looking at the Recall score, the Recognition score and the Complete Set Score. The analysis showed no significant interaction effect, however significant differences were found for experimental conditions (F(3,97) = 6.91, p<.001, effect size = .176 and F(9, 236.22) = 4.85, p<.000, effect size = .129 respectively. Significant differences were also found for each of the three outcome measures (Recall, Recognition and Complete Set Score). For practical significance, there was a difference in test scores between students who used the Comparison routine and students who did not. As a result, students in the experimental condition used the routine which led to significantly better understanding of important content information in secondary content area classes (Bulgren et al., 2002b).

A fifth study (Bulgren et al., 2002), utilized the Question Exploration Routine in ninth grade general education English classes. Of the 134 students in thirteen classes, six classes were randomly assigned to use the routine (experimental condition) and seven classes (control) were assigned to use traditional methods to teach Shakespeare's Romeo and Juliet. Two sets of lesson material covering the same information were designed for each lesson, one for the control group and one for the experimental group. The students were given two tests to measure student understanding of the material with an inter-scorer reliability of 90.5%. Students were given satisfaction surveys using a seven point Likert –type scale and a survey related to preparedness and students' confidence level on a seven point Likert –type scale. In addition, for the teachers, a Content Score Sheet was completed by observers to document when information related to the topic was covered in class.

A general linear mixed model approach was used to analyze the nested data with the treatment used as a fixed factor and the classrooms and students used as random factors. Students who were instructed using the Question Exploration Routine answered a higher percentage of questions correct on the two tests and the difference between their means was statistically significant. Students in the experimental condition using the routine were "neither satisfied nor dissatisfied" and "somewhat satisfied" using the routine (p. 11). The students in the experimental condition were also more confident in their preparedness for the tests and felt they learned what they needed to master as compared to the control group who did not use the routine.

Bulgren and colleagues (2002a) researched the implementation of curriculum mapping and the guiding critical question from the Unit Organizer Routine and the Question Exploration Routine to see if just use of these "starter" routines are easier for teachers to implement into their secondary curriculum rather than use of each of the whole routines. Thirty high school students with learning disabilities who were enrolled in general education ninth through twelfth grade Language Arts courses were randomly selected from two area high schools for this study. A repeated measures research design was employed with six groups of five students each who received each of three different interventions in differing sequences. Scores from a pre-post test design were analyzed. Based on the results of a repeated measures analysis of variance, there was a statistically significant difference between the three intervention conditions (F = 91.73, p< .001). The students earned significantly higher scores when using the curriculum map intervention than the guided questions intervention and significantly higher scores when using the guiding questions than the review intervention.

In a meta-analysis of research studies of the best models for instructing students with learning disabilities, Swanson (2001) found an acceptable effect size (.84) for research studies pertaining to direct instruction and strategy instruction. In addition incorporating small group

instruction and explicit strategy instruction into classrooms promote learning for students with learning disabilities.

In summary, the previous studies support the use of CER at the secondary level for students with mild disabilities. Teachers who collaborate, implement content enhancements and learn new strategies foster a learning environment that meets the needs of all students in a regular secondary classroom. Actively involving students and incorporating strategic learning into the classroom are necessary components to help all students find learning a more rewarding experience and thrive in the classroom (Schumaker and Deshler, 1995).

Co-teaching, Content Enhancement Routines (CER) and Student Learning Outcomes

In order to meet the needs of all students in alignment with NCLB and IDEA, more research is needed in the area of student learning outcomes at the secondary level (McLaughlin & Thurlow, 2003). A small number of evidence-based studies on co-teaching exist that are related to student learning outcomes at the secondary level (Weiss & Lloyd, 2002; Zigmond & Baker, 1996). Yet stronger evidence has been gathered on students with disabilities in learning to use organize, understand, recall and apply information in general education coursework using CER (Deshler et al., 2001). Although general education teachers implement CER, they have specifically reported low implementation due to various outside factors, including not enough time to cover the content and required extensive training (Boudah et al., 1997; Mastropieri & Scruggs, 2001). A potential solution to the lack of time for the general education teachers to implement these evidence-based strategies could be co-teaching.

In a study of co-teaching teams by Hardy (2001), the general educator stated that she would discontinue the use of some of the adaptations and specific teaching practices if she were no longer co-teaching. Therefore, it is recommended that strategy instruction, along with co-

teaching, be used to promote a successful inclusive environment and use of evidence-based practices like CER (Boudah, Schumaker & Deshler, 1997; Mastropieri & Scruggs, 2001). Furthermore, it is critical that co-teachers select from a variety of instructional strategies and teaching arrangements to continue to thrive (Dieker, 2001; Salend, 2005). While considering best practices for secondary inclusion, the placement itself should not be the determining factor of student success; but instead the quality of the program being implemented (Zigmond, 2003).

Despite a growing database on positive student learning outcomes when implementing co-teaching at the secondary level and implementing CER, limited research exists on student outcome data incorporating co-teaching and CER in secondary general education classrooms. A Content Enhancement approach supports team teaching and co-planning, builds on constructivist principles, focuses on content that is worth knowing and leads to the development of a bank of focused, effective, and collectively crafted lessons (Allen, Okrainetz, Rey & Schindel, 2002).

Boudah, Schumaker and Deshler (1997) researched already established, co-taught classrooms in grades six, seven, eight and ten, each with a general and special educator responsible for instruction in a content area (history, science or literature). The co-taught experimental group received professional development in the Collaborative Instruction Model (CI) and four strategic skills (components of CER) to implement in their classes to see if there would be a difference in student learning outcomes on a pre-post student knowledge test. The CI teachers collaborative actions improved and they were generally satisfied following the CI training. On measures of strategic skills mastery, the group that received training in CI performed significantly better than the control group. There were significant differences in pre to post test gains on skills tests from CI to control group, but they were insignificant within the CI group.

In another study incorporating co-teaching and CER, Allen and colleagues (2002), compared a ninth grade co-taught English Language Arts class which included students with significant learning difficulties with randomly selected students in two non co-taught tenth grade History classes. The study investigated four teachers (two general educators and two special educators) who participated in a one week training at the University of Kansas Center for Research and Learning on the Course and Unit Organizer. The instructional approach was refined during the research project as teachers planned together, taught using the CER organizers and then reflected on their teaching practice. Students reportedly found courses structured and expressed that the CER helped them understand the material which they found to be a benefit in preparing for exams and reportedly were better organized. Teachers recommended working collaboratively and that ongoing professional development would have been helpful instead of just attending at the beginning of the school year.

Overall, there is substantial research in CER and limited research in co-teaching as related to student learning outcomes. As a result, there is very limited research that combines both. The gap in research demonstrates a need for explorations on student outcomes in co-taught settings. Additionally, research findings suggest that CER yield high learning outcomes for students with learning disabilities at the secondary level when consistent and explicit instruction and use of these routines (Boudah, Schumaker & Deshler, 1997). Research also demonstrates that successful co-taught classrooms use a variety of cognitive strategies and resources (Dieker, 2001). Therefore, this investigation will incorporate best practices in professional development, co-teaching and CER to determine the outcomes for students with LD in secondary social studies classrooms.

Conclusion

In an era of accountability and standards based reform, the focus on student outcomes has intensified with the NCLB Act (2001) emphasizing highly qualified teachers implementing evidence based practices in their classrooms and to improve student outcomes. The process of facilitating student engagement in learning and assessing retention and understanding is key to impacting student learning (Boudah, Schumaker & Deshler, 1997; Deshler et al, 2001). In an effort to bridge the gap between research and practice, an increased emphasis is measuring student learning outcomes resulting from implementation of evidence based practices in schools.

In this chapter, an increasing database of research studies measuring student learning outcomes in secondary inclusive co-taught settings was presented (Dieker, 1998; Rea et al., 2002; Walsh & Snyder, 1993; Zigmond et al., 1997). In addition, CER was supported as an effective research based practice when implemented in secondary inclusive classrooms (Boudah & Lenz, 2000; Bulgren & Deshler, 2000; Bulgren et al., 2002; Swanson, 2001). However, a limited research base is currently available on implementing CER in inclusive co-taught settings at the secondary level (Allen et al., 2002; Boudah, Schumaker & Deshler, 1997).

Summary

In summary, special education has progressed in educating all students with disabilities in the LRE with the emphasis placed on providing access to the general education curriculum. With all that the general education curriculum has to offer students with mild disabilities, providing access to the knowledge is clearly not enough. General and special educators need to facilitate programming for students that is outcome based within the context of successfully mastering the curriculum (Deshler et al., 2001). As students increase in grade level and become

68

more independent learners, specific skills are required to help organize and use information acquired. Schumaker and Deshler (1995) recommend shifting the traditional focus from content learning to process learning by engaging teachers in content enhancements and students as strategic learners. Students who are actively involved in their learning and are able to make connections with content, strengthen their knowledge and understanding and are better able to reproduce it later (Schumaker & Deshler, 1995). Collaboration and team teaching are increasingly effective ways to deliver curriculum to a diverse group of students at the secondary level in the general education setting (Dieker, 2001).

One way to provide these services is through a collaborative co-teaching environment where teachers and students are supported and receive services in the general education setting to the maximum extent possible. However, placement is not necessarily the determining factor in student success (Dieker, 2001; Gately & Gately, 2001; Zigmond, 2003). Other factors need to be put into place to create a successful learning environment for all students; including evidence based academic interventions and instructional practices (Deshler, 2001; Salend, 2005). Incorporating multifaceted layers of strategic instruction, strategic learning and collaboration will enhance student success at the secondary level in the general education setting.

CHAPTER THREE: METHODOLOGY

Introduction

The purpose of this study was to examine if differences exist in student learning outcomes between students who are instructed in a co-taught or non co-taught environment in secondary social studies classrooms implementing CER. This study examined student and teacher data from seventeen matched pairs of co-taught and non co-taught middle and high school general education social studies teachers who participated in professional development in CER and professional development in co-teaching if applicable. Of the 34 participating teachers, 23 were visited by school district personnel to verify implementation of CER. Five co-teaching teams, each consisting of a general and special educator, completed a Coteaching Rating Scale (CtRS) (n=10) to analyze the level of co-teaching taking place in the classroom (beginning, compromising or collaborating stage). A sample of students ($n = 907$) completed a CER Student Perception Survey to examine differences in students' perception of using CER in co-taught and non co-taught social studies classrooms. Student state assessment scores ($n = 318$) in co-taught and non co-taught classrooms were analyzed to distinguish differences in student learning gains. Specifically this study investigated if differences in student performance occur with the presence of a special educator in the classroom.

This chapter is divided into five subsections. First, the research questions are listed followed by a description of the data collection procedures in section two. The third section includes a description of the participants and setting. Next, four data collection instruments including reliability and validity are described. The fifth subsection includes a description of the statistical analysis.

Research Questions

The following research questions were investigated in this study:

1. Was implementation of Content Enhancement Routines observed within co-taught and non co-taught secondary social studies classrooms following professional development?
2. Based on teacher perceptions, what are the components of co-teaching teams who implement Content Enhancement Routines?
    a. What are the developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who implement Content Enhancement Routines?
3. Do secondary students with disabilities instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in perception of use of Content Enhancement Routines when compared to their peers in non co-taught social studies settings?
4. Do secondary students with disabilities instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in FCAT Reading performance when compared to their peers in non co-taught social studies settings?

Description of Procedures

Sixty-one secondary social studies teachers who were implementing CER in their co-taught or non co-taught social studies classrooms during the 2005-2006 academic year and had already participated in ongoing CER professional development were selected for an additional CER professional development in March 2006 by the social studies district administrator (see Appendix A). During the March CER professional development, the researcher met with school

district personnel and anonymously with teachers to explain their involvement in the study and

obtain their written consent to participate, as stated in the Internal Review Board (IRB) (see

Appendix B).

Of the 61 teachers, 34 were selected to participate in the study based on teacher

involvement in co-teaching and eleven common variables: completed professional development,

considered implementer of CER, position (grade level taught, subject area), certification type,

whether they were teaching in-field or out of field, school grade, years taught, education level,

age, race and gender. In April and May 2006, one social studies CER district trainer visited 23

of the 34 classrooms for 15-45 minutes each, to complete the CER Implementation Checklist

(see Appendix C) to verify implementation of CER. In addition, all of the teachers participating

in co-teaching (n=17) were sent a Coteaching Rating Scale (CtRS) through the school courier

with instructions (see Appendix D) for completing and returning to the school district co-

teaching trainer. A sample of five of the seventeen teachers who participated in co-teaching and

their co-teaching special educator completed and returned the Coteaching Rating Scale (CtRS).

The CtRS surveys were coded to protect confidentiality and then mailed to the researcher. Data

from the CtRS were inputed into SPSS by the researcher and associate, disaggregated by teacher

and analyzed.

Twenty to thirty sample students from the seventeen matched sample teachers, for a total of

907 students, completed a CER student perception survey which was created, coded and

administered by the school district in April 2006 (see Appendix E). The CER student perception

survey data were inputed into SPSS by the researcher and associate, disaggregated by teacher

and analyzed. All students in the school district took the state assessment reading test [Florida

Comprehensive Assessment Test (FCAT)] in March 2006. FCAT data were given to the district

from the state and three co-taught and three non co-taught teachers were coded, disaggregated by

teacher and given to the researcher to analyze. See Table 2 for timeline of procedures, events

that occurred at each point and the participants involved in each event.

Table 2

Timeline of Procedures

Date	Event Occurred	Participants
April/July/August 2005	Professional Development in Co-teaching for 2005-2006 school year	17 teachers implementing co-teaching of the 34 total teacher participants
August 2005	Professional Development in Course/Unit Organizer and Frame Content Enhancement Routines	All 34 teacher participants
September/October/December 2005 And January 2006	Professional Development Follow-up CER Sessions with Teachers	All 34 teacher participants
March 2006	Professional Development in Question Exploration and Recall Content Enhancement Routines	All 34 teacher participants
March 2006	Florida Comprehensive Assessment Reading Test	Six of the 34 teachers/ 318 students
April 2006	Student Perception CER Survey Completed	33 of the 34 teachers/ 907 Students
April/May 2006	CER Teacher Implementation Checklist	Verified implementation on 23 of the 34 teachers
April/May 2006	Coteaching Rating Scale	Five of 17 teachers with their co-teacher (total 10)

Description of the Participants

A large South Florida school district was selected for the research study. The school district was undergoing a district wide transformation moving to more inclusive settings for students with disabilities. Under a recent school district plan, by 2009 all district schools would include students with disabilities in their academic programs. During the 2005-2006 academic year, about half of the students with high incidence disabilities spent most of their day in general education classrooms. The new plan would increase that to 75% over the next few years (Shah, 2006). The district transformation incorporated changes to schedules, budgeting, personnel and professional development. Within the secondary social studies curriculum program area, professional development in CER was required for social studies teachers as part of the school district plan to accomplish the goal of increased access to the general education curriculum in that content area. The district's mission statement maintains that their school district is "…committed to excellence in education and preparation of all our students with the knowledge, skills, and ethics required for responsible citizenship and productive employment" (Shah, 2006).

The Department of Secondary, Adult, and Community Education within the school district established a clear goal to increase student achievement by strengthening literacy and social studies content knowledge. To accomplish this goal, a team of program district administrators in social studies, exceptional education, and program evaluation partnered with a local university to develop and implement a comprehensive professional development and evaluation plan. The outcome from the plan included specific groups who were targeted for professional development. Seven hundred forty social studies teachers received initial professional development in the social studies curriculum alignment, research-based instructional methods and routines, and related resources at the beginning of the 2005-2006 academic year.

Throughout the school year, additional professional development and resources in CER (Deshler et al., 2004) were provided for all social studies teachers.

Setting

The setting for this study includes a description of the school district, the individual schools who participated in the study and the classrooms where student instruction occurred. This study was part of the larger program evaluation and reconstruction of a large south Florida school district. The district currently employs approximately 11,600 teachers in the district, 404 of which are National Board Certified and approximately 740 are Social Studies Teachers.

In this district, there were approximately 177,000 students enrolled during the Fiscal Year 2005-2006, with about 27,000 or 14.7% in Exceptional Education. Of the 163 public schools in the district, approximately 6,000 dollars were spent per student each year. Florida's School Accountability System tracks student demographic information and learning gains from year to year using three measures of student achievement and three measures of student learning gains based on the state's academic standards. School grades have been issued since 1999 and include the Florida Comprehensive Assessment Test (FCAT) as the primary criterion for calculating school grades (FLDOE, 2006). There were 84 (52%) schools in the district that earned a school grade of an A, 37 (23%) that earned a B, 24 (15%) that earned a C, 9 (6%) that earned a D, and 3 (2%) that earned an F. (A description of the state school grading system is provided in Table 3).

Table 3

Florida School Grades, 2005-2006

Letter Grade	Requirements
A	• 410 points or more
	• Meet adequate progress of lowest students in reading
	• Test at least 95% of eligible students
B	• 380 points or more
	• Meet adequate progress of lowest students in reading within two years
	• Test at least 90% of eligible students
C	• 320 points or more
	• Meet adequate progress of lowest students in reading within two years
	• Test at least 90% of eligible students
D	• 280 points
	• Test at least 90% of eligible students
F	• Fewer than 280 points *or*
	• Less than 90% of eligible students tested

Note. Points = School Grades utilize a point system. Schools are awarded one point for each student who scores high on FCAT or makes an annual learning gain (Florida Department of Education, 2006)

For this study, eleven middle schools and ten high schools were represented from the school district ranging in size from 918 to 2,469 students. See Table 4 for more information about individual school size and Social Economic Status (SES).

Table 4

School Population and SES

School	Population	% SES
School 1	$N = 1639$	19
School 2	$N = 1246$	20
School 3	$N = 1236$	20
School 4	$N = 1069$	12
School 5	$N = 1390$	19
School 6	$N = 918$	96
School 7	$N = 1255$	35
School 8	$N = 1100$	65
School 9	$N = 2084$	45
School 10	$N = 2469$	15
School 11	$N = 1361$	08
School 12	$N = 2735$	19
School 13	$N = 2243$	24
School 14	$N = 1533$	48
School 15	$N = 2362$	12
School 16	$N = 1859$	26
School 17	$N = 1031$	64
School 18	$N = 1194$	57
School 19	$N = 1262$	17
School 20	$N = 1542$	20

School	Population	% SES
School 21	$N = 2196$	56

Co-taught and non co-taught social studies classes comprised of 22-25 students. Teachers responsibilities involved in co-teaching across the school district varied by setting and school expectations. The number of students with disabilities in each school and individual classrooms varied across the district. All of the sample middle and high school students with disabilities included in the study were enrolled in general education courses, including a general education social studies class. Location of classrooms within each school building also varied amongst each school. Teachers who participated in this study were present throughout the 2005-2006 academic year. In general the philosophy of the individual schools mirrors that of the inclusion philosophy of the school district.

Teachers

In March 2006, there were 61 social studies teachers that participated in a professional development session on CER and were identified by the district as having completed all professional development and follow-up training on CER during the 2005-2006 academic year. The CER professional development took place during the 2005-2006 academic year over three days, two in the first semester (August 2005) and one in the second semester (March 2006), consisting of a seven hour work session over the course of one to two days, with a half day being spent on each routine (see Appendix B for information on professional development).

Each professional development session was facilitated by one of six CER certified trainers and directed by one social studies administrator to enforce consistency throughout the sessions. CER manuals and supplemental materials were provided to the participants for each

routine. Specific instruction and practice sessions were provided at each session. In general, the professional development consisted of an original training in the Course and Unit Organizer and the Framing Routine in August 2005. The professional development in these two routines was received at the beginning of the school year and conducted over a two day period.

To reinforce implementation of the routines and receive additional assistance and problem solving implementing the routines in their social studies classrooms, teachers attended follow-up sessions offered eight times during the school year from September 2005 to May 2006. During the follow-up sessions, conducted by the social studies school district administrator, teachers were required to bring student examples as evidence of implementation of the routine. The teachers also brought in any challenges and successes, and concerns were shared regarding implementation. (see Appendix F for information on when each teacher attended which professional development and follow-up session).

During the second half of the school year in March 2006, the teachers received professional development in two additional routines including The Question Exploration Routine and The Information Recall Routine. This professional development consisted of a one day hands on workshop/training in both routines, a half day with each routine. At this professional development session in March 2006, district personnel explained this study to the participants while reinforcing confidentiality in teacher information. The teachers provided demographics and identified themselves as participating in co-teaching or not participating in co-teaching in their secondary social studies classrooms. In addition, to support the teachers in their implementation of CER, all the school principals and some assistant principals received a basic CER overview of the routines through mandatory basic CER staff development during a routine administrator meeting through the school district. This professional development was not as

extensive as the teacher training, but was an overview of the training the teachers would receive and what to expect to see in the classrooms.

Of the 34 teachers participating in the study, 22 were middle school teachers, 12 were high school teachers, 25% were male and 75% female. Over half of the teachers (54.5%) were over 46 years of age, with the majority White, non Hispanic (76.5%), 17.6% African American and 5.9% Hispanic. Forty-seven percent of the teachers in the study had a master's degree or higher with the majority of teachers teaching between 16 and 34 years (58.2%). An overwhelming majority (96.4%) of the 28 teachers who reported whether they were teaching in field reported that they were in fact teaching in field, while only 2 of the 34 (5.9%) actually had a four year college degree in education. Most of the teachers (79.4%) reported completing a test for subject certification while five teachers (14.7%) completed an actual alternative certification program. (see Appendix G for a table including all 34 individual teacher demographics).

During the CER professional development in March 2006, the teachers completed a CER knowledge survey that included a question that allowed teachers to self-identify as participating in a co-taught setting (See IRB in Appendix B). The survey question read: "Do you have an ESE teacher supporting the ESE students in your classroom?" Teachers that responded "yes" were classified as participating in co-taught settings and then verified through school district personnel. The professional development for co-teaching in the school district varied by year of implementation; however all teachers had been through similar professional development with collaborative ongoing support.

Co-teaching professional development consisted of a two day, seven hour per day hands-on discussion/workshop session where teachers and administrators had the opportunity to learn about co-teaching and work in school teams to plan and coordinate lessons and schedules in May or August 2005 before the 2005-2006 school year began. However, some teachers have been co-

teaching for years and have attended earlier co-teaching professional development prior to the preparation for the 2005-2006 school year. The co-teaching professional development, facilitated by two district CER/co-teaching trainers was held in a large room with round tables at the school district facility and consisted of instruction and hands on planning workshops for schools to work in teams of teachers and administrators. Materials, The Co-teaching Lesson Plan Book (Dieker, 2006) and supplemental handouts were provided. Follow up sessions for the 17 co-teachers participating in this study were not offered. (see Appendix A for more detailed information). A sample of five co-teaching teams completed the Coteaching Rating Scale (CtRS) to describe the components of the co-teaching relationship as well as the level of co-teaching taking place in the classroom (beginning, compromising or collaborating).

Of the 61 teachers from the March 2006 CER professional development, 18 self-identified as participating in co-teaching. The original group of 18 teachers who identified themselves as participating in co-teaching was verified with district personnel to state whether in fact these teachers were using co-teaching in their classrooms and had been through professional development for both CER and co-teaching. Of the 18 self-identified teachers, all were participating in co-teaching; however one was not implementing CER when visited by school district personnel and consequently dropped as a sample participant.

Thus the 17 teachers who both self-identified as participating in co-teaching and who were identified by school district personnel as implementing CER were selected to participate in this study. Of the remaining 43 teachers that self-identified as not participating in a co-taught setting, a matched sample of 17 teachers was created. The teachers who implemented a co-teaching model of inclusion in their classroom were matched on eleven variables in rank order with teachers who did not implement co-teaching in their classrooms. The emphasis was placed on the first five variables, based on specificities of the study and research completed by Rea,

83

McLaughlin & Walther-Thomas (2002) and Boudah, Schumaker & Deshler, (1997); and then each subsequent variable was matched for categories six to eleven. The variables in rank order are: a) Completed Professional Development (CER), b) Considered High Implementer of CER, c) Position (Grade level taught, subject area), d) Certification Type (Took a State Certification Test, Alternative Certification Program or 4 year degree in Education), e) In-Field/Out of Field, f) School Grade, g) Years Taught (Experience), h) Education Level, i) Age, j) Race, k) Gender.

Students

The teachers participating in the study were directed by school board personnel to administer a CER Student Perception Survey to a systematic sample of 30 of their secondary social studies students throughout all classes in which the teachers used CER in April 2007 (n=907). Teachers were instructed to distribute the pre-coded survey to every nth student in classes where they implemented CER. The students were selected to be representative of the total population of students the teachers served, including students with disabilities. Some teachers taught electives and did not implement in every class, so the distribution was based on teacher discretion. Nine hundred and seven students completed the surveys in their classes and the anonymously coded surveys were sent to district personnel through mail courier and then mailed to the researcher for data entry. One middle school teacher from the study did not return the student surveys to district personnel. Therefore, 21 middle school teachers returned a total of 585 surveys and 12 high school teachers returned a total of 322 student perception surveys for a total of 907 student surveys.

About half of the sample students (n= 432) were enrolled in a co-taught social studies class with a special education teacher and a general education teacher implementing CER. The other half (n= 475) were enrolled in a typical social studies class with one general education

teacher implementing CER. In addition to the CER student perception survey data, 318 of the

907 student FCAT reading scores from three co-teachers and three non co-teachers in the study

were provided by the school district to the researcher for data analysis. Florida Comprehensive

Assessment Test (FCAT) reading scores were collected in March 2006 by the state and given to

the school district in May 2006. These reading scores were then coded, disaggregated by teacher

and given to the researcher in October 2006 to analyze ($n=318$).

Description of Research Instrumentation

Research instrumentation used in this study include: CER Teacher Implementation

Checklist, Florida Comprehensive Assessment Test (FCAT) Reading scores, CER Student

Perception Surveys, and the Coteaching Rating Scale (CtRS). See Table 5 for a timeline as to

when each instrument was implemented.

Table 5

Timeline of Research Instrumentation

Date	Instrumentation	Participants
March 2006	FCAT Reading Test	Students ($n=318$)
April 2006	CER Student Perception Survey	Students ($n=907$)
April/May 2006	CER Implementation Checklist	Teachers ($n=23$)
April/May 2006	CtRS	Teachers ($n=10$ teachers, 5 teams)

All of the student learning outcome data and teacher implementation data were disaggregated by teacher and then given to the researcher for analysis to protect confidentiality of participants. See Figure 1 for a flowchart explaining an overview of the research design, including participant information and research instrumentation.

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┌─────────────────────────────────────────────────────────┐
│              Total Population - 61 Teachers              │
│  Sample Size – 34 Teachers, 30-100 Students per Teacher  │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
           ┌──────────────────────────────────┐
           │   Professional Development       │
           │   Content Enhancement Routines   │
           │   Support Facilitation (Co-teaching) │
           └──────────────────────────────────┘
                            │
                            ▼
            ┌────────────────────────────────┐
            │   District Visits - Checklist of │
            │   CER Teacher Implementation    │
            └────────────────────────────────┘
```

17 General Education, Co-Teachers		17 General Education, Non Co-Teachers

| Middle & High School General Education Social Studies teacher with assistance of ESE CoTeacher | **Matched in Rank Order**

1. Completed Professional Development
2. Implementer of CER
3. Position (grade level, subject)
4. Certification Type
5. In-Field/Out of Field
6. School Grade
7. Years Taught
8. Education Level
9. Age
10. Race
11. Gender | Middle & High School General Education Social Studies teacher without assistance of ESE CoTeacher |

| 10 Sample Teachers Completed Coteaching Rating Scale | | |

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┌─────────────────────────────────────────────────────────┐
│               Student Outcome Results                   │
│                                                         │
│   • CER Student Perception Surveys (n=907)              │
│   • FCAT Reading Scores (n=318)                         │
└─────────────────────────────────────────────────────────┘
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Figure 1: Overview of Research Design

Content Enhancement Routine Implementation Checklist

The CER Implementation Checklist used for this study was created by the school district social studies administrator for the purpose of verifying implementation of the routines. The 12 statement Implementation Checklist was created based on the manuals and training materials for the CER that the teachers received during professional development. The checklist included items from the *Cue, Do, Review* sequence (Deshler et al., 2001) such as: 1) The teacher reviewed the mnemonic to *cue* the students to use the Content Enhancement Routine, 2) The teacher completed an example as a model for the students (*do*) and 3) The teacher *reviewed* the information on the device at the end of the lesson (see the complete CER Implementation Checklist listed in Appendix C).

Previous evidence for score reliability for data from the CER Implementation Checklist had not been obtained. However, evidence of internal consistency score reliability (i.e., Cronbach's alpha) was recorded during analysis of the data and are reported in Chapter Four. Typically, checklists as a form of survey research are valid if they measure what they intended to measure. The ten item checklist was validated using the manuals and training materials from the CER training. The items on the checklist had high content validity as determined by district administrators and local experts; however validity of the inference of the scores from the instrument was not statistically determined.

One former social studies national board certified teacher/CER certified trainer from the school district observed the co-taught and non co-taught social studies classrooms in April/May of the 2005-2006 school year to verify the extent to which teachers were implementing CER (*n=23*). To conduct the observation, the school district representative visited one of each teachers' subject area classes for approximately 15 to 45 minutes depending on the organization of the class and the lesson being taught.

Content Enhancement Routine Student Perception Survey

The CER survey consisted of thirteen questions detailing how often the students perceived the teacher implemented CER in their classroom. The survey used a 4 category rating scale of: a) never, b) less than once a week, c) once or twice a week or d) everyday or almost everyday. Sample items from the survey include: 1) How often are you told to refer to the Course Organizer/Map? 2) How often are you told what you need to do to participate in the lesson? 3) How often are you given the opportunity to ask questions to clarify any misunderstandings? (see Appendix E for a copy of the survey in its entirety)

Prior to this study, the reliability of the CER Student Perception Survey was not statistically determined. However, reliability of the scores received from the survey was statistically determined during data analysis and are reported in Chapter Four. The survey was created by the social studies district administrator, based on the curriculum manuals and materials the teachers received at the professional development sessions. Therefore, the survey had high content validity as established by experts in the curriculum material and district administrators in the school district where it was created, as well as university level professionals from the partnering university. Criterion and construct validity were not statistically determined. However, validity of the scores and constructs produced during data analysis was analyzed and are reported in Chapter Four.

The CER Student Perception Survey was systematically distributed by each of the 34 participating social studies teachers to every nth student, for a total of approximately 30 students from each teacher, who were representative of the total population of students. The survey's were anonymous and the students were told not to evaluate their teacher but to evaluate how often CER was used in their classroom.

Gately and Gately (2001) created a scaled survey as a way for teachers and their administrators to measure the effectiveness of co-teaching. Through extensive experience in co-teaching, numerous observations of co-teachers and various professional development opportunities with co-teaching teams, the researchers developed eight components of the co-teaching relationship, essentially comprising of the three stages (beginning, compromising and collaborating) of co-teaching. The research is described in more detail in Chapter Two. The survey was designed to be used to give co-teachers the power to evaluate their relationship, assess which of the eight components are working and which need improvement. The supervisor then can focus on certain aspects of the co-teaching classroom that may need additional assistance or guidance to enhance success. Gately and Gately (2001) state that the ultimate outcome of the Coteaching Rating Scale is to assist in the evaluation of effective co-teaching practices and to develop strategies to improve programs.

The survey consisted of 24 statements measured on a 3 point likert scale, ranging from Rarely, Sometimes to Usually, that measured the general or special educators viewpoint of co-teaching. A sample of items on the scale include: 1) I can easily read the nonverbal cues of my co-teaching partner 2) I understand the curriculum standards with respect to the content area in the co-taught classroom and 3) Planning for classes is the shared responsibility of both teachers. In addition, all of the questions in the survey can be found in Appendix D.

The Coteaching Rating Scale has not been used in any published studies to quantify score reliability. However, evidence of score reliability was recorded during analysis of the data and will be reported. The Coteaching Rating Scale has high content validity as established by the researchers who are experts in the field. Although suggested for use in the collaborative classroom, it is important to note that the scale has not been used in any studies to quantify score

validity. However, validity of the scores and profiles produced during data analysis was

analyzed and is reported in Chapter Four.

The CtRS surveys were distributed to the teachers by district personnel through school

mail courier in April/May 2006, completed anonymously by the teachers and mailed to the

researcher for data entry and analysis. The teachers also completed an additional consent to

participate form which they returned separately so the district personnel would know which

surveys were returned but their survey could not be matched to their identifying information. In

addition, this information was not given to the researcher.

Florida Comprehensive Assessment Test (FCAT)

According to the Florida Department of Education (2006), the Florida Comprehensive

Assessment Test (FCAT) is a state of Florida standardized assessment measurement, testing

students in grades 3-11 comprising of two components: criterion-referenced tests and norm-

referenced tests. The criterion-referenced tests measures the selected benchmarks of the Florida

Sunshine State Standards for Language Arts, Math, Science and Writing.   The norm-referenced

tests measures Reading and Math individual student achievement compared to national norms of

the SAT 10. All public school students in general and special education are required to take the

FCAT. Some students with disabilities or Limited English Proficiency may use accommodations

when taking the FCAT in the areas of presentation, setting or responding. The accommodations

used for testing must be consistent with the accommodations used in the classroom.

FCAT scores are reported in three ways: achievement scores, scaled sores and

developmental scores. The level scores range from Level One to Level Five using a scaled range

of 100 to 500. The scaled score has averaged around 300 (Level Three) since the test was first

administered in 1998.   The developmental scores show whether each student has made growth

since the last FCAT was administered. The developmental scores range from zero to 3000.

The FCAT Sunshine State Standard Reading portion of the test for ninth and tenth grade

specifically includes written material to assess students reading comprehension. The tests

include informational and literary passages, including: Words Phrases in Context; Main Idea,

Plot and Purpose; Comparisons and Cause/Effect; and Reference and Research. Students have

120 minutes to take the ninth grade reading test comprising of multiple choice type questions and

45 total points possible.   In tenth grade, students have 160 minutes to take the reading test

comprising of multiple choice, short and extended written response answers with 35 points

possible.

According to the Accountability and Assessment Briefing Book (FLDOE, 2004a) about

the score reliability and validity, the FCAT meets all requirements of psychometric quality for

standardized assessments. The test also meets the requirements for internal consistency, inter-

rater reliability and reliability of classifications. In the most recent FCAT Technical Report

(FLDOE, 2003), internal consistencies for reliability for the FCAT are reported using

Cronbach's alpha (.885 for total ninth grade reading and .882 for total tenth grade reading) and

Item Response Theory (IRT) marginal reliabilities (.80 for ninth grade reading and .88 for tenth

grade reading). Based on the information provided, scores produced from the FCAT are

considered highly reliable test assessing the educational achievement of students.

The criterion-related validity has been shown to have a high correlation with the Stanford

Nine test without testing the exact same information. The last reported correlation coefficient in

2003 was .82 for ninth grade reading and .78 for tenth grade reading. The reported ninth grade

Scale Score Intercorrelation is .964 and .977 for tenth grade. Construct validity determines if the

skills intended to be measured were measured. Using confirmatory and explanatory factor

analysis, convergent and discriminant analyses, the FCAT demonstrates an acceptable level of construct validity, although exact coefficients are not reported (FDOE, 2004).

The developmental scores, which show student growth over time, have four limitations which affect validity of using the developmental score to monitor student progress. The four limitations include: 1) the scores depend on 2 years of scores to show growth and some students may not have taken the assessment the prior year, 2) more growth is typically shown at the lower grade levels than at the higher grade levels, 3) the developmental score only shows one year of growth and is only one piece of the students total academic record for the school year, and 4) some students may show no growth (FLDOE, 2004). Students took the FCAT at their schools in March 2006 and received criterion and norm referenced scores in May 2006.

Description of Statistical Analysis

The statistical analysis for each research question is as follows:

Question 1: The CER implementation checklist was originally intended to measure whether or not the teacher was implementing several aspects of the CER Cue, Do, Review sequence. However, due to uncontrollable time and scheduling conflicts at the school district level, some of the checklists reported one or two of these aspects and a simple *yes* or *no* if the teacher was implementing at the time of the visit. Therefore, a descriptive analysis of the implementation checklist was completed. The analysis included types of distributions and measures of central tendency (see Appendix C for the Implementation Checklist and Appendix G for a demographic list of teachers).

Question 2: In question two, a sample of teachers responded to a survey on what level of co-teaching is taking place in their classrooms as well as what the co-teaching relationship looks like. Again, descriptive statistics were analyzed for types of distributions and measures of

central tendency. An item analysis and frequency tables with crosstabulations was analyzed for information about specific components of the co-teaching relationship as well as the developmental level of the teams. Data from a sample of five general education co-teachers and five special education co-teachers who teamed together for a total of 10 teachers in five co-teaching teams was included for this portion of the study.

Question 3: A nested ANOVA was used to test for mean differences in student perceptions of CER based on the co-taught setting (co-taught vs. non co-taught) when accounting for potential variation between teacher. Data from 907 student CER Perception Surveys from 16 co-teachers and 17 matched non co-teachers was included in this portion of the study.

Question 4: A nested ANOVA was used to test for mean differences in FCAT reading. Developmental scale scores are based on the setting (co-taught vs. non co-taught) when accounting for potential variation between teacher. Student data ($n=318$) from three co-teachers and three matched non co-teachers were included for this portion of the study.

In addition, data entry varied with each instrument. Descriptive statistics were conducted to identify outliers or unusual values. The internal consistency of each construct was evaluated using Cronbach's Alpha. Using the reliability analysis in the data analysis software, the extent to which the item in the questionnaires were related to each other and an internal consistency as a whole as well as problems that should be excluded from the questionnaires were calculated. An explanation of the statistical analysis including the research questions, data collection, variables and specific data analysis are provided in Table 6.

<div align="center">Statistical Analysis</div>

The researcher completed the statistical analysis, per question, described in Table 6.

Table 6

Data Analysis

Research Question	Data Collection	Variables	Data Analysis
Was implementation of Content Enhancement Routines observed within co-taught and non co-taught secondary social studies classrooms following professional development?	Implementation Checklist April/May 2006	IV=co-taught setting DV= implementation of CER	Descriptive
Based on teacher perceptions, what are the components of co-teaching teams who implement Content Enhancement Routines?	Coteaching Rating Scale April/May 2006	Constant= co-taught setting	Descriptives Item Analysis Frequency tables with crosstabulations
What are the developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who implement Content Enhancement Routines?	Coteaching Rating Scale April/May 2006	Constant= Co-taught setting	Descriptives Frequency tables with crosstabulations
Do secondary students with disabilities instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in perception of use of Content Enhancement Routines when compared to their peers in non co-taught social studies settings?	CER Student Perception Survey April 2006	IV=co-taught setting DV=CER survey score	Nested ANOVA Factor Analysis
Do secondary students with disabilities instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in academic performance when compared to their peers in non co-taught social studies settings?	FCAT scores March 2006	IV=co-taught setting DV=FCAT reading developmental scale score	Nested ANOVA

Note. IV = Independent Variable and DV = Dependent Variable

CHAPTER FOUR: RESULTS

Introduction

The purpose of this study was to investigate differences in student learning outcomes between students who are instructed in a co-taught versus a non co-taught environment in secondary social studies classrooms where Content Enhancement Routines (CER) are implemented. This chapter presents the results of the data analysis for each of the following research questions pertaining to this study:

1. Was implementation of Content Enhancement Routines observed within co-taught and non co-taught secondary social studies classrooms following professional development?

2. Based on teacher perceptions, what are the components of co-teaching teams who implement Content Enhancement Routines?

    a. What are the developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who implement Content Enhancement Routines?

3. Do secondary students instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in perception of use of Content Enhancement Routines, when compared to their peers in non co-taught social studies settings?

4. Do secondary students instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in FCAT Reading performance when compared to their peers in non co-taught social studies settings?

Question One

Was implementation of Content Enhancement Routines observed within co-taught and non co-taught secondary social studies classrooms following professional development?

In this section, the results of the CER Implementation Checklist are presented. The CER Implementation Checklist used for this study was created by the school district social studies administrator for the purpose of verifying implementation of CER. Due to scheduling and time constraints, twenty-three of the thirty-four participants were visited by a former social studies national board certified teacher/CER certified trainer from the school district.

Demographics

Of the 23 participants, general information regarding the demographics of the teachers is presented in Table 7.

Table 7

Demographics of Participants: CER Implementation Checklist, Percentages within Teaching

Environment

Variables	CT (*n=10*)	NCT (*n=13*)
Middle School Teachers	6 (60%)	9 (69%)
High School Teachers	4 (40%)	4 (31%)
Certified by a Test	7 (70%)	12 (92%)
Certified by ACP	3 (30%)	1 (8%)
Teaching In Field	7 (70%)	12 (92%)
Range of Years Experience	3-29 years	3-33 years
Age Range	36-56 years old	22-56 years old

Notes: CT Co-taught, NCT non Co-Taught, ACP Alternative Certification Program

CER Implementation

The CER Implementation Checklist consisted of twelve behaviors that were to be

exhibited by the teachers and recorded as observed by the certified district trainer. A simple

system was used for recording, *yes* the behavior was evident or *no* the behavior was not evident.

The twelve item checklist was divided into three sections, based on the research behind CER.

All CER follow a *Cue, Do, Review* phase of learning. During the "Cue" phase, the teacher cues

the students into the lesson and into using the specific routine. Throughout the "Do" phase the

teacher does the routine with the students following the steps of the specific routine. In the

"Review" phase, the teacher reviews the key concepts from the lesson using the specific routine (Deshler et al., 2001).

Overall, the co-taught and non co-taught teachers were very similar in implementing CER. During the "Cue" phase of CER, the co-taught (80%) and non co-taught (69%) teachers both displayed evidence of providing the students with the Course/Unit Organizer. Both the co-taught (80%) and non co-taught (92%) teachers specified what the students needed to do and likewise, the co-taught (70%) and non co-taught (61%) teachers displayed the Course Questions for the students to use. However, both the co-taught (30%) and non co-taught (38%) teachers did not overwhelmingly display evidence of explaining how the routine would help the students learn.

In the "Do" phase of CER, half of the co-taught (50%) and the majority of the non co-taught (69%) teachers did not display evidence of creating a context for learning by including a course question, introducing a big picture and referring back to the course question throughout the lesson. By a slight majority, both the co-taught (60%) and non co-taught (61%) teachers did recognize the content structure with the students by pointing out the main idea. A discrepancy was observed between the co- taught and non co-taught teachers-in questions seven and eight concerning the "do" phase of CER. The co-taught teachers (70%) did not display evidence of acknowledging the unit relationship by tying in the previous lesson with the present lesson and showing a connection, whereas the non co-taught teachers (69%) did display evidence of this process. In turn, the co-taught teachers (60%) did display evidence of framing the unit questions by using or creating unit self-test questions, whereas the non co-taught teachers (54%) did not display evidence of this process. Both the co-taught (90%) and non co-taught (100%) teachers displayed evidence of using a variety of strategies that engage students and promote literacy and student interaction.

In the "Review" phase of CER, the district trainer often did not stay to see this part of the lesson and therefore did not complete all the checklists accurately due to time and scheduling constraints. In effect, according to the data reported, neither the co-taught or the non co-taught teachers displayed a majority of evidence of reviewing with their students (see Appendix C for a copy of the complete checklist). A summary of the results are listed in Table 8.

Table 8

CER Implementation Checklist – Frequencies and Percentages within Teaching Environment

	Co-Taught (*n=10*)		Non Co-taught (*n=13*)	
Behavior Observed	Not Evident	Evident	Not Evident	Evident
1. Cue: Provides Course/Unit Organizer	2 (20%)	8 (80%)	4 (31%)	9 (69%)
2. Cue: Explains how CER will help the students learn	7 (70%)	3 (30%)	8 (62%)	5 (38%)
3. Cue: Specifies participation in the lesson	2 (20%)	8 (80%)	1 (08%)	12 (92%)
4. Cue: Displays Course Questions	3 (30%)	7 (70%)	5 (38%)	8 (62%)
5. Do: Creates a context throughout the lesson	5 (50%)	4 (40%)	9 (69%)	4 (31%)
6. Do: Recognizes content structure: Main Idea	4 (40%)	6 (60%)	5 (38%)	8 (61%)
7. Do: Acknowledges unit relationship	7 (70%)	3 (30%)	4 (31%)	9 (69%)
8. Do: Frames unit questions	4 (40%)	6 (60%)	7 (54%)	5 (38%)

Behavior Observed	Co-Taught (*n=10*)		Non Co-taught (*n=13*)	
	Not Evident	Evident	Not Evident	Evident
9. Do: Uses a variety of strategies	1 (1%)	9 (90%)	0	13 (100%)
10. Review: Poses questions relating concepts	8 (80%)	2 (20%)	6 (46%)	4 (31%)
11. Review: Clarifies misunderstandings	8 (80%)	2 (20%)	7 (54%)	3 (23%)
12. Review: Provides direction for future activities	7 (70%)	1 (10%)	6 (46%)	4 (31%)

On average, eight (80%) of the co-taught and ten (76.9%) of the non co-taught teachers were *cuing* the students to use the routine half (50%) of the time or more; and six (66.7%) of the co-taught and eleven (91.7%) of the non co-taught teachers were *doing* the routines with the students 40% of the time or more. The frequencies of the *review* part of CER are not reported due to time and scheduling constraints. The district trainer observed anywhere from 15-45 minutes and often did not stay to see the end of the lesson taught and therefore could not accurately report on whether or not the teacher *reviewed* the routine and lesson with the students.

Previous evidence for score reliability for data from the CER Implementation Checklist had not been obtained. Although, the CER Implementation Checklist has not been used in any published studies to quantify reliability of the instrument, evidence of score reliability (Alpha = .6146) was recorded during analysis of the data. However, because of the small n, (*n=17*), it is important to note that this is preliminary information and should be interpreted with caution.

Summary

In response to Question One: Was implementation of Content Enhancement Routines (CER) observed within co-taught and non co-taught secondary social studies classrooms following professional development? According to the data provided from the CER Implementation Checklists, all twenty-three of the thirty-four teachers observed were implementing CER in their co-taught or non co-taught secondary social studies classrooms. Of the ten co-taught and thirteen non co-taught teachers observed, one of the co-taught (10%) and three of the non co-taught (23%) teachers were implementing 100% of the CER behaviors observed. The data include behavior observations from the *Cue* and *Do* portions only of CER and do not include data from the *Review* portion due to time and scheduling constraints.

Question Two

Based on teacher perceptions, what are the components of co-teaching teams who implement Content Enhancement Routines? What are the developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who implement Content Enhancement Routines?

The survey consisted of 24 statements measured on a 3 point likert scale, ranging from Rarely, Sometimes to Usually, that measured the general or special educators viewpoint of co-teaching (see Appendix D for a copy of the survey). The surveys were distributed to the subgroup of 17 general education social studies teachers who identified as participating in co-teaching and their special education co-teaching partner by district personnel through school mail courier, anonymously completed by the teachers and mailed to the researcher for data entry and

analysis. A sample of five general education teachers and their special education co-teachers completed and returned the survey for a 29% return rate and were included for this portion of the study. Descriptive statistics were used to analyze the data. An item analysis and frequency tables were created with information about specific components of the co-teaching relationship as well as the developmental level of the teams.

Demographics

As part of the CoTeaching Rating Scale (CtRS), the teachers had the opportunity to self-report demographics based on a series of questions. From the information provided by the participants, the co-teaching teams consisted of three males (30%) and seven females (70%). Three (30%) of the participants were between 36 and 45 years of age, five (50%) were between 46 and 55 and two (20%) were over 56 years of age. Two (20%) of the participants were African American, one (10%) was Hispanic and seven (70%) were White Non-Hispanic. Five (50%) of the participants had their bachelor's degree, four (40%) had their master's degree and one (10%) had his Ed.D. during the 2005-2006 school year. Three (30%) of the participants were middle school teachers, two (20%) were secondary teachers and five (50%) were special education teachers. Nine (90%) of the teachers were teaching in-field and one (10%) special education teacher was teaching out of field. Four of the five special educators (80%) and one of the five general educators (20%) had a four year college degree in Education, one special educator (20%) was certified through an alternative certification program and four general educators (80%) completed a test for certification.

Overall, the co-taught teams reported the highest remark of "usually" as how often things occurred in their classrooms (Scale was Rarely, Sometimes and Usually). Slight differences were reported between the general and special educators overall. The special educators responded that they did not often present lessons in the co-taught class ($M = 1.8$, $SD = .837$), and the general educators responded that rules in the co-taught class were not typically jointly created ($M = 2.4$, $SD = .894$). The general educators ($M = 2.2$, $SD = .837$) and the special educators ($M = 1.6$, $SD = .894$) both responded that planning was not usually a shared responsibility and both groups responded ($M = 2.2$, $SD = .894$) that usually time was not allotted for common planning. Abbreviated questions from the Coteaching Rating Scale are presented in Table 9 for more information. For the complete rating scale, see Appendix D.

Table 9

General and Special Educator's Response to CtRS; Frequencies and Percentages

	General Educator					Special Educator				
	Rarely	Some-times	Usually	*M*	*SD*	Rarely	Some-times	Usually	*M*	*SD*
1. easily read non verbal cues	(0)	(2)	(8)	2.8	.447	(0)	(0)	(10)	3.0	.00
	.00	.20	.80			.00	.00	1.0		
2. comfortable moving freely	(0)	(0)	(10)	3.0	.00	(0)	(0)	(10)	3.0	.00
	.00	.00	1.0			.00	.00	1.0		
3. understand the curriculum standards	(0)	(0)	(10)	3.0	.00	(0)	(0)	(10)	3.0	.00
	.00	.00	1.0			.00	.00	1.0		
4. agree on the goals of the classroom	(0)	(0)	(10)	3.0	.00	(0)	(0)	(10)	3.0	.00
	.00	.00	1.0			.00	.00	1.0		
5. spontaneous planning	(0)	(2)	(8)	2.8	.447	(0)	(4)	(6)	2.6	.548
	.00	.20	.80			.00	.40	.60		
6. I often present lessons	(0)	(2)	(8)	2.8	.447	(4)	(4)	(2)	1.8	.837
	.00	.20	.80			.40	.40	.20		
7. Classroom rules jointly developed	(2)	(2)	(6)	2.4	.894	(0)	(2)	(8)	2.8	.447
	.20	.20	.60			.00	.20	.80		
8. Many measures for grading students	(0)	(2)	(2)	2.8	.447	(0)	(0)	(10)	3.0	.00
	.00	.20	.20			.00	.00	1.0		
9. Humor is often used in the classroom	(0)	(2)	(8)	2.8	.447	(0)	(2)	(8)	2.8	.447
	.00	.20	.80			.00	.20	.80		

	General Educator					Special Educator				
	Rarely	Some-times	Usually	*M*	*SD*	Rarely	Some-times	Usually	*M*	*SD*
10. All materials are shared	(0) .00	(0) .00	(1) 1.0	3.0	.00	(0) .00	(0) .00	(10) 1.0	3.0	.00
11. familiar with content methods	(0) .00	(0) .00	(1) 1.0	3.0	.447	(0) .00	(0) .00	(10) 1.0	3.0	.00
12. Modifications are incorporated	(0) .00	(0) .00	(1) 1.0	3.0	.447	(0) .00	(0) .00	(10) 1.0	3.0	.00
13. Planning is shared responsibility	(2) .20	(4) .40	(4) .40	2.2	.837	(6) .60	(2) .20	(2) .20	1.6	.894
14. The "chalk" passes freely	(2) .20	(2) .20	(6) .60	2.4	.894	(0) .00	(2) .20	(8) .80	2.8	.447
15. variety classroom management	(0) .00	(2) .20	(8) .80	2.8	.447	(0) .00	(0) .00	(10) 1.0	3.0	.00
16. Test modifications are common place	(0) .00	(2) .20	(8) .80	2.8	.447	(0) .00	(2) .20	(8) .80	2.8	.447
17. Communication is open and honest	(0) .00	(0) .00	(10) 1.0	3.0	.000	(0) .00	(0) .00	(10) 1.0	3.0	.00
18. fluid positioning of teachers	(0) .00	(2) .20	(8) .80	2.8	.447	(0) .00	(2) .20	(8) .80	2.8	.447
19. confident in curriculum	(0) .00	(0) .00	(10) 1.0	3.0	.00	(0) .00	(4) .40	(6) .60	2.6	.548

	General Educator					Special Educator				
	Rarely	Some-times	Usually	*M*	*SD*	Rarely	Some-times	Usually	*M*	*SD*
20. Student-centered obj. are incorporated	(0) .00	(0) .00	(10) 1.0	3.0	.00	(2) .00	(0) .00	(10) 1.0	3.0	.00
21. Time is allotted for common planning	(2) .20	(4) .40	(4) .40	2.2	.837	(2) .20	(4) .40	(4) .40	2.2	.837
22. both teachers as equal partners	(0) .00	(2) .20	(8) .80	2.8	.447	(0) .00	(2) .20	(8) .80	2.8	.447
23. Behavior management is shared	(2) .20	(2) .20	(6) .60	2.4	.894	(0) .00	(0) .00	(10) 1.0	3.0	.00
24. IEP's are considered in grading	(0) .00	(2) .20	(8) .80	2.8	.447	(0) .00	(4) .40	(6) .60	2.6	.548

To evaluate each of the eight co-teaching components, a Coteaching Rating Scale Profile was provided by the authors of the CtRS (Gately & Gately, 2001) (see Appendix D for more information). Each of the eight components corresponds to three of the questions listed on the CtRS. Calculation of each of the eight subscales were calculated by adding the three identified questions together. For more information see Table 10 and the CtRS rating profile in Appendix D.

Table 10

Question Numbers Corresponding to the Eight Identified Co-teaching Components

Co-teaching Component	Question Numbers
Interpersonal Communication	1, 9, 17
Physical Arrangement	2, 10, 18
Familiarity with Curriculum	3, 11, 19
Curriculum Goals/Modifications	4, 12, 20
Instructional Planning	5, 13, 21
Instructional Presentation	6, 14, 22
Classroom Management	7, 15, 23
Assessment	8, 16, 24

The twenty-four question CtRS is broken down into eight co-teaching components; three questions pertain to each component, as described above in Table 10. To calculate how each co-teaching team scored on each component, the researcher totaled the three questions pertaining to each component (each question is worth three points) for a perfect score of nine for each component. For example, as explained in Table 13 above, to calculate how a team scored on the Interpersonal Communication co-teaching component, the researcher totaled questions one, nine and seventeen for a total score for Interpersonal Communication. The highest possible score for each co-teaching component is nine.

In a more specific analysis of the eight co-teaching components, the general and special educators both report the Curriculum Goals and Modifications component *usually* happens 100% of the time in the co-taught classroom. However, both the general (40%) and special (20%) educators report the Instruction Presentation component *usually* happens less than half the time

in the co-taught classroom. In addition, the general (40%) and special (0%) educators both

report Instructional Planning *usually* happens less than half of the time in the co-taught

classroom. The responses to the other five components varied.

After careful review of the co-teaching component data, the authors of the CtRS (Gately

and Gately, 2001) provide three developmental levels based on the Co-teaching Rating Scale

Profile. The Beginning Stage (possible three points) includes guarded, careful communication

where teachers may encounter feelings of intrusion or invasion. At the Compromising Stage

(possible six points), teachers have an increase in professional communication and tend to make

compromises without a mutual level of trust. The collaborative stage (possible nine points)

includes open and honest communication and interactions. The teachers are comfortable

together and may make it difficult to tell which teacher is the general or special educator.

The developmental levels of the co-teachers who completed the CtRS were at the

collaborating stage (8.0 or higher), with one general educator falling between the compromising

and collaborative stage. The special educators as a group fell between 8.0 (20%) and 8.63

(20%). The general educators had a larger spread falling between 7.13 (20%) and 9.0 (40%). As

teams, the co-teachers averaged between 7.82 and 8.6 at the collaborating stage.

Gately and Gately (2001) discuss three developmental stages that partners go through in a

co-teaching relationship; beginning, compromising and collaborating. Although the five co-

teaching teams in this study reportedly need more time and a more shared responsibility with

planning, all five teams were at the collaborating stage in their co-teaching relationship. See

Table 11 for more specific information.

Table 11

Developmental Level Averages of Participants

Team Teachers	Team Average	Co-teacher Average
Team 1	8.57	
1A		9.0
1B		8.13
Team 2	8.50	
2A		9.0
2B		8.0
Team 3	8.51	
3A		8.38
3B		8.63
Team 4	8.13	
4A		8.13
4B		8.13
Team 5	7.82	
5A		7.13
5B		8.50

Notes. A = General Educator, B = Special Educator

Reliability focuses on random errors, or the degree of errors that are not systematic (Rudner & Schafer, 2000). Although, the CtRS has not been used in any published studies to quantify reliability of the instrument, evidence of score reliability (Alpha = .7626) was recorded during analysis of the data. The reliability coefficient is higher than .70 which indicates it is an acceptable measure of score reliability. However, because of the small n, ($n=10$), it is important to note that this is preliminary information and should be interpreted with caution.

Summary

In response to Question Two: "Based on teacher perceptions, what are the components of co-teaching teams who implement CER? What are the developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who implement CER"? According to the data provided from the CtRS, the average of the components (each out of nine possible points) of the co-teaching teams who implement CER include the eight co-teaching components recommended by Gately & Gately (2001); Interpersonal Communication (8.7), Physical Arrangement (8.8), Familiarity with Curriculum (8.8), Curriculum Goals/Modifications (9.0), Instructional Planning (6.8), Instructional Presentation (7.7), Classroom Management (8.2) and Assessment (8.4). Although individual scores from questions within certain components (Instructional Planning and Instructional Presentation) were low, overall the co-taught teams fell into the Collaborating Level for all of the components except Instructional Planning in which the teams, on average, fell into the Compromising Level (6.8). Please see Table 12 for more information.

Table 12

Overall Average of Components of Co-taught Teams

Components of Co-taught Teams	Average Score out of Nine (Percentages)	Developmental Level
Interpersonal Communication	8.7 (97%)	Collaborating
Physical Arrangement	8.8 (98%)	Collaborating
Familiarity with Curriculum	8.8 (98%)	Collaborating
Curriculum Goals/Modifications	9.0 (100%)	Collaborating
Instructional Planning	6.8 (76%	Compromising
Instructional Presentation	7.7 (86%)	Collaborating
Classroom Management	8.2 (91%)	Collaborating
Assessment	8.4 (93%)	Collaborating

Question Three

Do secondary students instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in perception of use of Content Enhancement Routines when compared to their peers in non co-taught social studies settings?

The following section presents the results from the CER Student Perception Survey. Students ($n=907$) enrolled in co-taught and non co-taught secondary social studies classes where CER was being implemented were surveyed to help determine whether there was a difference in their perceptions of using CER in the classroom. Middle School ($n=585$) and High School ($n=322$) students were surveyed from co-taught ($n=432$) and non co-taught ($n=475$) classes

implementing CER. Survey questions ($n=13$) prompted students to respond to how often they perceived CER procedures were used in the classroom. Responses were presented in a categorical scale (Never, Less Than Once a week, Once or Twice a week, Everyday or Almost Everyday). The complete CER student perception survey is presented in Appendix E.

Overall, students enrolled in the co-taught and non co-taught settings did not differ in their perceptions of the amount of CER support they received. Data from 907 student CER Perception Surveys from 16 co-teachers and 17 matched non co-teachers were included in this portion of the study. A .05 criterion of statistical significance was employed for all tests. The CER student perception survey was analyzed by calculating a mean score for each student running a nested Analysis of Variance (ANOVA) using SPSS Statistical Software. A nested ANOVA was conducted: 1) to determine mean differences in test score based on instructional method (two methods; co-taught and non co--taught) and 2) to determine mean differences in test scores between classes teaching the same instructional method. Classes, rather than students, were assigned to instructional method thus classes were included as a nested effect with thirty-four levels (seventeen classrooms in each instructional method). Because the classes were the only ones available, they were included in the design as a fixed, rather than random, effect.

The null hypotheses tests included: 1) The average test score for each instructional method is equal and 2) the average test score for each classroom nested within instructional method is equal. The assumptions of the tests were reviewed. While skewness (-.625) and kurtosis (1.274) indicated normality was a reasonable assumption, the Shapiro-Wilks' test of normality indicated the distribution was not reasonably normal ($W = .976$, $p = .000$) as did the Q-Q plots. Based on Levene's test of equality of variances, the variances were not homogeneous, $F (31, 830) = 5.308$, $p = .000$. Although the data violated homogeneity of

114

variance, results were relatively robust. Thus it was deemed appropriate to proceed with the analysis.

The ANOVA did not indicate a statistically significant effect for instructional method, $F(1, 830) = .381$, $p > .05$, which means that the difference between the two groups was not large enough to indicate a practical significance. However, there was a statistically significant effect for the nested factor (classes within instructional method), $F(30, 830) = 10.466$, $p < .05$, eta squared $= .27$. Eta squared indicated that the proportion of variation in score accounted for by differences within classrooms was about 27%. Eta Squared indicates how much of a difference was present in test scores between co-taught and non co-taught environments. The effect size (Cohen's *d*) for this piece of the study was .27 which is a low effect size compared to the overall effect size found in a meta-analysis on co-teaching, which ranged from low (.24) to high (.95) with the average effect size at .40 (Murawski & Swanson, 2001). This means that although there was a significant difference between the student survey scores in the co-taught setting, it was not a large enough difference to indicate practical significance. See Table 13 for more information.

The results of this analysis suggest that there is no difference in student survey score, on average, based on instructional method, however there are differences in student survey scores between classes using the same instructional method (co-teaching vs. non co-teaching).

Table 13

Nested ANOVA Results for CER Student Perception Survey

Source	df	F	Mean Square	Sum of Squares	Sig.
Co-Taught	1	.381	.061	.061	.537
Class*Co-taught	30	10.466	1.664	49.907	.000
Error	830		.159	131.934	.000

The interaction effect is shown in Figure 2 below.
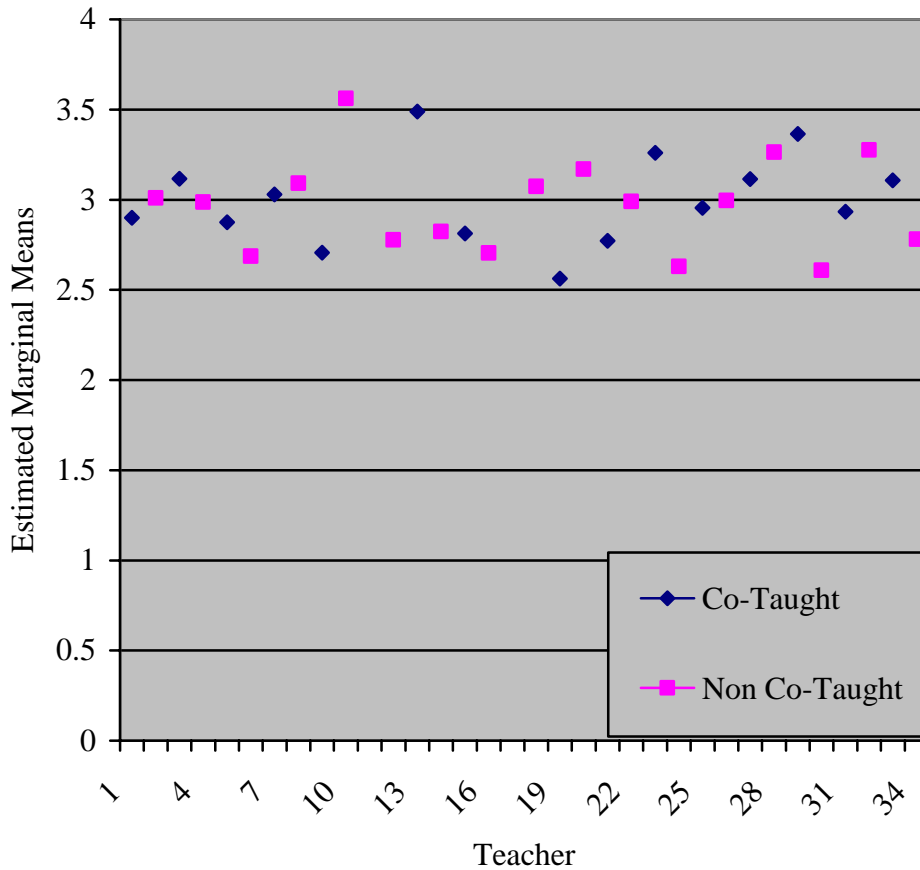
Figure 2. Estimated Marginal Means of Mean Score of CER Student Perception Survey

Prior to this study, the reliability of the CER Student Perception Survey was not statistically determined. However, reliability of the scores received from the survey was statistically determined during data analysis (Alpha = .7718). The reliability coefficient is higher than .70 which indicates it is an acceptable measure of score reliability. The survey was created by the social studies district administrator, based on the curriculum manuals and materials the teachers received at the professional development sessions. In effect, the survey has high content

validity as established by experts in the curriculum material and district administrators in the

school district where it was created, as well as university level professionals. The researcher and

associate entered all the data separately providing a check system which produced reliability of

data entry at 98%. Eighteen of the 907 scores were entered inconsistently and fixed based on the

reliability check. Criterion and construct validity have not been statistically determined.

Summary

In response to Question Three: Do secondary students instructed in social studies co-

taught settings where Content Enhancement Routines are implemented differ in perception of

use of Content Enhancement Routines when compared to their peers in non co-taught social

studies setting? There was no statistically significant difference in mean score $F(1, 830)$

$=.381$, $p >.05$ based on the co-taught or non co-taught setting, however there are differences

in student perception survey scores between classes using the same instructional method (co-

teaching vs. non co-teaching), $F (30, 830)=10.466$, $p < .05$ and slight differences in their

comparable means.

Question Four

Do secondary students instructed in social studies co-taught settings where Content

Enhancement Routines are implemented differ in FCAT Reading performance when compared

to their peers in non co-taught social studies settings?

This section presents the analysis of the results of the Florida Comprehensive Reading

Test (FCAT) for students participating in the study in grades nine and ten. FCAT scores are

reported in three ways: achievement scores, scaled sores and developmental scores. The level

scores range from Level One to Level Five and are cut off using a scaled range of 100 to 500.

The scaled score has averaged around 300 (Level Three) since the test was first administered in

1998. The developmental scores show whether each student has made growth since the last

FCAT was administered. The developmental scores range from zero to 3000. Students received

criterion and norm referenced scores on the Florida Comprehensive Assessment Test (FCAT)

taken in March 2006.

Due to student attrition, retention and students passing the tenth grade FCAT, reading

scores were made available for three matched co-taught and non co-taught classes which

provided data for a total of 318 students. The scores were reported over a two year period to

demonstrate growth in reading skills. In addition to a descriptive analysis, a nested ANOVA was

used to test for mean differences in FCAT reading developmental scale scores based on the co-

taught setting (co-taught vs. non co-taught) when accounting for potential variation between

teacher. Student data ($n=318$) from three co-teachers and three matched non co-teachers were

included for this portion of the study.

Of the 318 students, 152 (47.8%) were male and 166 (52.2%) were female. Eight (2.5%)

of the students were Asian, ninety-three (29.2%) were Black, eighty-four (26.4%) were Hispanic,

two (.6%) were Indian, nine (2.8%) were Multi-Racial and one hundred twenty-two (38.4%)

were White. Twenty-Six (8.2%) of the students were identified as being in a special education

program. This demographic data is representative of the school district population with 28% of

the students were Black, 22% were Hispanic, and 42% were White. Fifteen percent of the

students were identified as being in a special education program, and 46% were reportedly on

free and reduced lunch during the 2005-2006 school year.

The FCAT developmental scale scores gain score means are reported for each co-taught and non co-taught teacher in Table 22 below. The numbers reported need to be interpreted with caution, due to the fact that they also represent a negative gain (some scores went from a high scale score in 2005 to a lower score in 2006, resulting in a negative gain) with the minimum at -708 and maximum at 571, as well as variance in number of students per class. See Table 14 for more information.

Table 14

FCAT Developmental Gain Mean Scores

	Descriptive Statistics		
Paired Teachers	Mean	SD	n
A = Co-taught	72.29	182.030	70
A = Non Co-taught	73.40	85.769	5
B = Co-taught	9.04	145.991	91
B = Non Co-taught	21.11	191.656	76
C = Co-taught	81.34	168.314	65
C = Non Co-taught	33.55	198.041	11

Notes. A, B, C = Paired Teachers, SD = Standard Deviation, N = Number

The results from the nested ANOVA are reported in Table 23 below. A .05 criterion of statistical significance was employed for all tests. The FCAT reading scores were analyzed by calculating a mean score for each student than generating a nested Analysis of Variance (ANOVA) using SPSS Statistical Software. A nested ANOVA was conducted: 1) to determine mean differences in test score based on instructional method (two methods; co-taught and non co--taught) and 2) to determine mean differences in test scores between classes in which the same instructional method was taught. Classes, rather than students, were assigned to instructional method thus classes were included as a nested effect with six levels (three classrooms in each instructional method). Because the classes were the only ones available, they were included in the design as a fixed, rather than random, effect.

The null hypotheses tests included: 1) The average test score for each instructional method is equal and 2) the average test score for each classroom nested within instructional method is equal. The assumptions of the tests were reviewed. While skewness (-.141) and

kurtosis (1.016) indicated normality was a reasonable assumption, the Shapiro-Wilks' test of normality indicated the distribution was reasonably normal (W = .992, p = .110) as did the Q-Q plots. Based on Levene's test of equality of variances, the variances were assumed to be homogeneous, $F(5, 312) = 1.147$, $p = .336$. Thus it was deemed appropriate to proceed with the analysis.

The ANOVA did not indicate a statistically significant effect for instructional method, $F(1, 312) = .118$, $p>.05$. There was no statistically significant effect for the nested factor (classes within instructional method), $F(4,312) = 2.247$, $p.>.05$. There was no statistically significant difference in reading scores when the FCAT developmental score was analyzed just for 2006, not as a gain score $F(1,312) = 1.368$, $p>.05$. However, there was a statistically significant effect for the nested factor (classes within instructional method), $F(4,312) = 10.653$, $p<.05$., eta squared $= .12$. Eta squared indicated that the proportion of variation in score accounted for by differences within classrooms was about 12%. Eta Squared indicates how much of a difference was present in test scores between co-taught and non co-taught environments. The effect size (Cohen's *d*) for this piece of the study was .12 which is a low effect size compared to the overall effect size found in a meta-analysis on co-teaching, which ranged from low (.24) to high (.95) with the average effect size at .40 (Murawski & Swanson, 2001). This means that although there was a significant difference between the FCAT developmental reading scores for 2006 in the co-taught setting, it was not a large enough difference to indicate practical significance.

The results of this analysis suggest that there is no difference in developmental scale gain score on average, based on instructional method or in test scores between classes using the same instructional method. There is no difference in developmental scale score when just using 2006 score on average, based on instructional method, however, there are differences in test scores

between classes using the same instructional method (co-teaching vs. non co-teaching) when just the 2006 developmental scale score is used. See Table 15 and Table 16 for complete results.

Table 15

Nested ANOVA Results for FCAT SSS Developmental Gain Scores

Source	df	F	Mean Square	Sum of Squares	Significance
Co-teaching	1	.118	3476.280	3476.280	.731
Class*Co-teaching	4	2.247	66205.520	264822.081	.064
Error	312		29468.403	9194141.749	

Table 16

Nested ANOVA Results for 2006 FCAT SSS Developmental Scores

Source	df	F	Mean Square	Sum of Squares	Significance
Co-teaching	1	1.368	68931.458	68931.458	..243
Class*Co-teaching	4	10.653	536592.355	2146369.421	.000
Error	312		50370.836	15715700.8	
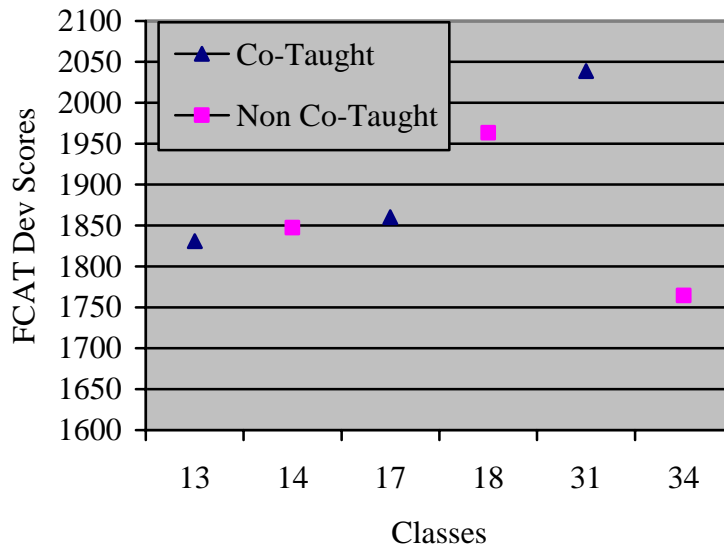
Figure 3. Displays the interaction effect between the FCAT Developmental Scores and the intact classes.

Summary

In response to Question Four: Do secondary students instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in FCAT Reading performance when compared to their peers in non co-taught social studies settings? The ANOVA did not indicate a statistically significant effect for instructional method, $F(1, 312) = .118$, $p>.05$. There was no statistically significant effect for the nested factor (classes within instructional method), $F(4,312) = 2.247$, $p.>.05$. There was no statistically significant difference when the FCAT developmental score was analyzed just for 2006, not as a gain score $F(1,312) = 1.368$, $p>.05$. However, there was a statistically significant effect when the FCAT developmental score was analyzed just for 2006, not as a gain score for the nested factor (classes

within instructional method), $F_{(4,312)} = 10.653$, $p<.05$, eta squared $= .12$. Eta squared indicated

that the proportion of variation in score accounted for by differences within classrooms was

about 12%. A limitation to using developmental gain scores is that the scores require FCAT

reading results from two consecutive academic years, which eliminates all students who repeated

a grade, came late in the school year or are transient within the two years of data collected.

Summary of Data Analysis

In response to Question One: Was implementation of Content Enhancement Routines

(CER) observed within co-taught and non co-taught secondary social studies classrooms

following professional development? According to the data provided from the CER

Implementation Checklists, all twenty-three of the thirty-four teachers observed were

implementing CER in their co-taught or non co-taught secondary social studies classrooms. Of

the ten co-taught and thirteen non co-taught teachers observed, one of the co-taught (10%) and

three of the non co-taught (23%) teachers were implementing 100% of the CER behaviors

observed.

In response to Question Two: "Based on teacher perceptions, what are the components of

co-teaching teams who implement Content Enhancement Routines (CER)? What are the

developmental levels (Beginner, Compromising, or Collaborative) of co-teaching teams who

implement Content Enhancement Routines"? According to the data provided from the CtRS, the

average of the components (each out of nine possible points) of the co-teaching teams who

implement CER include the eight co-teaching components recommended by Gately & Gately

(2001); Interpersonal Communication (8.7), Physical Arrangement (8.8), Familiarity with

Curriculum (8.8), Curriculum Goals/Modifications (9.0), Instructional Planning (6.8),

Instructional Presentation (7.7), Classroom Management (8.2) and Assessment (8.4). Although individual scores from questions within certain components (Instructional Planning and Instructional Presentation) were low, overall the co-taught teams fell into the Collaborating Level for all of the components except Instructional Planning in which the teams, on average, fell into the Compromising Level (6.8).

In response to Question Three: Do secondary students instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in perception of use of Content Enhancement Routines when compared to their peers in non co-taught social studies setting? There was no statistically significant difference in mean score $F(1, 830) = .381$, $p > .05$ based on the co-taught or non co-taught setting, however there are differences in test scores between classes using the same instructional method (co-teaching vs. non co-teaching), $F(30, 830) = 10.466$, $p < .05$ and slight differences in their comparable means.

In response to Question Four: Do secondary students instructed in social studies co-taught settings where Content Enhancement Routines are implemented differ in FCAT Reading performance when compared to their peers in non co-taught social studies settings? The ANOVA did not indicate a statistically significant effect for instructional method, $F(1, 312) = .118$, $p > .05$. There was no statistically significant effect for the nested factor (classes within instructional method), $F(4, 312) = 2.247$, $p. > .05$. There was no statistically significant difference in reading scores when the FCAT developmental score was analyzed just for 2006, not as a gain score $F(1, 312) = 1.368$, $p > .05$. However, there was a statistically significant effect when the FCAT developmental score was analyzed just for 2006, not as a gain score for the nested factor (classes within instructional method), $F(4, 312) = 10.653$, $p < .05$, eta squared $= .12$. Eta squared indicated that the proportion of variation in score accounted for by differences within classrooms was about 12%.

CHAPTER FIVE: CONCLUSION

Purpose and Procedures of the Study

The most recent reauthorization of the Individuals with Disabilities Education Act (IDEA, 2004) continues to emphasize the importance of providing access to the general education curriculum to all students with disabilities through educational placements within a continuum of services. The continuum of services assures placement in the Least Restrictive Environment (LRE) receptive to students needs (Burstein et al., 2004). One way of providing a Free and Appropriate Public Education (FAPE) and meeting the needs of a diverse population of students in the LRE is through collaborative practices in inclusive environments. Inclusive environments in the LRE include students with disabilities in general education programs alongside students without disabilities by providing a variety level of support in special education services in the general education setting. But how can educators best provide effective, evidence based inclusive services at the secondary level (Mastropieri & Scruggs, 2001)?

Cook & Friend (1992) suggest that teachers who foster a cooperative and caring learning environment, one that promotes individual differences and socialization, and who use a variety of instructional arrangements when possible such as team teaching, cross age grouping and peer tutoring will have more successful experiences in the classroom. Teachers, who have the knowledge, support and skills needed to make accommodations for individual students will also have greater success than teachers who are unwilling or unable to accommodate (Bowe, 2005; Deshler et al., 2004; Dieker & Murawski, 2003; Magiera & Zigmond, 2005). Co-teaching is one

way schools are restructuring their programs to meet the needs of all learners in the general education classroom and has become a widely accepted inclusion model of service delivery (Dieker & Murawski, 2003).

Research has indicated that students learn best when they are actively involved in their own learning through the use of instructional and metacognitive strategies (Deshler, et al., 2001; Dieker & Little, 2005; Schumaker et al., 2002). Deshler and colleagues (2001) recommend using validated leveled interventions, such as Content Enhancement Routines (CER) and embedded strategy instruction, as ways to help students with learning disabilities achieve passing levels on state achievement tests.

Essentially this study was designed to describe if differences exist in student learning outcomes between students who are instructed in a co-taught or non co-taught environment in secondary social studies classrooms implementing CER. First, this study was designed to answer questions regarding implementation of co-teaching and CER in secondary social studies classrooms. Second, this study was designed to provide data on students in co-taught and non co-taught secondary social studies classrooms implementing CER. Third, this study was designed to determine if differences exist between the two sample groups of students.

In order to complete the investigation, the researcher examined student and teacher data from seventeen matched pairs of co-taught and non co-taught middle and high school general education social studies teachers who participated in professional development in CER and professional development in co-teaching if applicable. Of the 34 participating teachers, 23 were visited by school district personnel to verify implementation of CER. Five co-teaching teams, each consisting of a general and special educator, completed a Coteaching Rating Scale (CtRS) ($n=10$) to analyze the level of co-teaching taking place in the classroom (beginning, compromising or collaborating stage). A sample of students ($n = 907$) completed a CER Student

Perception Survey to examine differences in students' perception of using CER in co-taught and non co-taught social studies classrooms. Student state assessment scores ($n = 318$) in co-taught and non co-taught classrooms were analyzed to distinguish differences in student learning gains. Specifically this study investigated if differences in student perceptions of using CER in the classroom and if differences in reading scores occur when a special educator is present in the classroom.

Summary, Limitations and Implications of Findings

The research questions in this study focused on implementation of co-teaching and CER in secondary social studies classrooms and whether or not differences in student learning outcomes exist between students in co-taught and non co-taught settings. Specifically, the first two questions looked at whether the teachers were implementing CER and co-teaching, and the second two questions looked at student learning outcomes. This section presents summaries of the research from this study in four subsections; 1) Implementation of CER, 2) Co-teaching Components, 3) Student Perceptions of CER, and 4) Differences in Student Learning Outcomes. Implications regarding the findings from this study in relation to the research presented in Chapter Two include; 1) Secondary Reform and Standards-Based Education, 2) Inclusion, 3) Co-teaching, and 4) Content Enhancement Routines (CER).

Implementation of CER

The first question in this research study asked if implementation of CER in secondary social studies co-taught and non co-taught classrooms was observed, after receiving professional development and support with implementation. Of the 34 teachers in this study, 23 were

observed for implementation of CER in their secondary social studies co-taught or non co-taught classroom by a nationally board certified CER district trainer. The CER Implementation Checklist simply stated whether certain expected behaviors were evident at the time of the visit. Of the 23 teachers observed, all 23 were implementing CER in their classrooms. Overwhelmingly, both the co-taught (90%) and non co-taught (100%) teachers displayed evidence of using a variety of strategies that engage students and promote literacy and student interaction. The teachers in this study participated in professional development four or more times over the course of a year on how to implement CER in their secondary social studies classrooms. One of the sessions was a follow-up session to support the teachers with any difficulties they may have had and to celebrate their successes.

Limitations and Implications

One limitation of the study was the inability to take a random sample from all the secondary social studies teachers in the school district due to access restraints. The researcher only had access to a small sample of teachers provided by the school district and the student data from those teachers. Due to anonymity of teacher and student information, the researcher was not able to directly observe the teachers implementing CER and co-teaching in their classrooms. In addition, the observer only visited the classrooms one time, she was the only observer and it was toward the end of the school year, so some teachers may have already implemented the specific routines earlier in the school year. Additionally, there was only one co-teaching professional development opportunity for this particular group of co-teachers, and although they were receiving ongoing professional development in CER, there was no specific instruction on how to implement CER within the intricacies of a co-taught classroom. Perhaps more specific

guidelines and planning should accompany the CER training, specifically for teachers using CER in a co-taught classroom.

Teachers are held responsible for incorporating professional development opportunities on evidence based practices into their curriculum and classroom teaching practices. Acknowledging that professional development is necessary to keep teachers from leaving the profession, Darling-Hammond (2004) suggests schools provide supportive, ongoing professional development that focuses on teacher learning to enhance student development, especially those with diverse learning needs. In her work with teachers across the country, Darling-Hammond emphasizes the need for school restructuring to give teachers time and support in collaborating and learning from each other. The author states that school restructuring allows for valuable scheduled collaborative and professional development time; therefore allowing teachers to grow and learn from one another how to best meet the needs of the diverse students in their class.

Essential to providing successful collaborative professional development opportunities is helping teachers adopt the new strategies and build them into their existing repertoire of techniques (Brownell et al., 2005). Brownell and colleagues (2005) studied eight general education teachers in depth and found five characteristics that influenced whether or not teachers adopted new strategies learned in professional development into their teaching methodologies. Teachers who had: 1) knowledge of content and pedagogy, 2) knowledge and proactive beliefs about managing student behavior, 3) positive views of teaching and student learning, 4) the ability to reflect on student learning and 5)the ability to adapt instruction for all students, were overall high implementers and adopted strategies from professional development opportunities. In general teachers who were more knowledgeable and used a technique right away were more apt to adopt the technique long term. In addition, teachers who were high implementers taught desirable behavior techniques to students, focused on important concepts and involved all

students in their classrooms (Brownell et al., 2005). As the authors noted, only professional development that results in increased student learning will ultimately be beneficial to the profession.

The reported findings from this study are in agreement with the research presented by Darling-Hammond (2004) and Brownell et al., (2005) that ongoing, supportive professional development is key to the transfer of skills and implementation in the classroom. The standards based journey that special educators have encountered, extended from the alignment of two important legislative acts; The Individuals with Disabilities Education Improvement Act (IDEA, 2004) and the No Child Left Behind Act (NCLB, 2001). As more students with disabilities are included into general education classrooms, changes are also being made to restructure secondary schools to create more accepting, inclusive environments.

Cole and McLeskey (1997) state that teachers at the secondary level are trained as content specialists who tend to be teacher-centered, whereas special education teachers tend to be more student–centered. In this study, through professional development opportunities in CER, teachers received the support they needed to show evidence of implementation of CER in their classrooms, regardless if they were co-teaching with a special educator or not. Offering an appropriate curriculum and using effective general teaching skills are two of the seven variables supported through research by Mastropieri and Scruggs (2001) as identifiers for successful inclusion. The co-taught and non co-taught teachers in this study were very similar in implementing CER. During the "Cue" phase of CER, the co-taught (80%) and non co-taught (69%) teachers both displayed evidence of providing the students with the Course/Unit Organizer. Both the co-taught (80%) and non co-taught (92%) teachers specified what the students needed to do and likewise, the co-taught (70%) and non co-taught (61%) teachers displayed the Course Questions for the students to use.

Both groups of teachers in this study were providing inclusive services to students with disabilities in the general education classroom, one group through co-teaching and the other group through consultative services. The process of including students with disabilities into general education classes at the secondary level is not new. However, it is currently evolving with the increased pressure of accountability of student leaning and implementation of evidence based practices to meet the needs of all students. Dieker and Little (2005) reinforce the notion of keeping what is "special about special education" (p. 280) as part of the co-teaching collaborative model to ensure students are still receiving the specific skills necessary to learn the content. The implication of implementation of CER in the secondary social studies classroom as it relates to the research in CER is clearly identifiable. The research behind CER states that instruction of the routines needs to be consistent, explicit and used repeatedly for success (Lenz & Deshler, 2004). One hundred percent of the general education secondary social studies teachers in this study who were observed did demonstrate evidence of implementation of CER in their classrooms.

One last implication of findings in regards to implementation of CER is the demographics of the teacher participants. The No Child Left Behind Act (NCLB, 2001) states that all classrooms must be staffed with a highly qualified teacher who has a bachelor's degree, full state certification of licensure and demonstration of mastery in each content area they teach at the secondary level. An overwhelming majority (96.4%) of the 28 teachers who reported whether they were teaching in field reported that they were in fact teaching in field, while only 2 of the 34 (5.9%) actually had a four year college degree in education. Most of the teachers (79.4%) reported completing a test for subject certification while five teachers (14.7%) completed an actual alternative certification program. This could have an impact on student learning results as most of the teachers do not have a four-year degree in the area they are

134

teaching in (Social Studies). (see Appendix G for a table including all 34 individual teacher demographics).

Co-teaching Components

The second question in this study asked what the components of the co-teaching teams were and through those components, what developmental level the co-teaching teams were functioning at. The teachers evaluated their co-teaching relationship using the CtRS developed by Gately and Gately (2001). Of the eight components of the co-teaching relationship described by the authors and according to the data provided, the teachers' strongest co-teaching component was Curriculum Goals and Modifications. This suggests that of the teachers who responded to the rating scale, all the teachers are working together to set curriculum goals for all students as well as make modifications for students in their classrooms. The lowest rated co-teaching component was Instructional Planning, indicating that all of the teachers who responded to the rating scale overall felt that they did not have enough time to plan and that planning was not spontaneous and equally shared amongst the general and special educator. Of the teachers who responded to the rating scale, all five co-teaching teams were working at the collaborating level in their co-teaching relationship. Gately and Gately (2001) refer to this relationship as similar to watching "an effective doubles team in tennis" (p.4).

Limitations and Implications

One of the requirements of IDEA is that all students with disabilities receive services on a continuum in the Least Restrictive Environment (LRE). One primary outcome from both IDEA and NCLB is a focus on improved student performance and a more integrated model for special

education (McLaughlin & Thurlow, 2003). The standards based reform movement has pushed

schools and families to include students with disabilities in the general education classroom to

make sure students with disabilities were receiving instruction in the academic content standards.

Villa, Thousand and colleagues (2005) report that more students with disabilities than ever are

being educated in the general education classroom, which opens the door for new collaborative

relationships and improved access to curricula, instruction and assessment. Through co-

teaching, general and special education teachers reach all students in one setting while providing

a team teaching approach for students by enhancing and teaching the standards. Additionally,

due to anonymity of student data, demographics, FCAT reading performance results and student

perception survey results could not be matched.

A limitation from the inability to directly observe the teachers had an impact on whether or

not the teachers were implementing effective co-teaching vs. effective teaching. The inability to

interview the co-teachers directly on the impact of the co-teachers philosophy on co-teaching and

their willingness to collaborate with other professionals was a limitation. A 29 % return rate on

the Coteaching Rating Scale (CtRS) only offers a description of what one third of the co-

teaching classroom teachers are experiencing and is only based on the sample of co-teachers who

returned their surveys to the district.

An additional limitation is the caution that needs to be used when interpreting the results of

the CtRS data as an example of the collaborative level of all co-teachers in the study. Caution is

advised in interpretation of the CtRS results and generalization to the larger population is not

recommended as the teachers who responded to this survey could have been the only successful

teams of teachers of the whole group, or perhaps they were happy in their collaborative

relationship, whereas other co-taught teams who felt unsuccessful or ill prepared may not have

responded to the CtRS survey.   It is recommended to review the demographic and certification

information of the teachers who responded to the CtRS noting that the special education teachers were more traditionally prepared with a four year degree in education than their general education partner.

One interesting implication of findings from the results of the CtRS in relation to the movement toward having a highly qualified teacher in every classroom (NCLB, 2001), was the demographic information with the addition of the special educators. The coteaching district coordinator asked the general educators to have their special education partner also complete a CtRS and demographic information so the co-teaching relationship could be evaluated from both the general and special educators' viewpoint. As mentioned above, most of the general educators did not have a four-year degree in teaching Social Studies, however, in addition of the demographic information of the special education partner, four out of five of the special educators had a four-year degree in their area of expertise, special education, whereas only one of the five general educators did. This could have an impact on any differences that were or were not discovered in regards to student learning outcomes. Teachers who receive certification in teaching by taking a test are not necessarily required to taking education courses or futher their education in the area they are certified to teach (Darling-Hammond & Berry, 2006). Darling-Hammond and Berry (2006) report on research findings that teachers who are traditionally prepared to teach produce higher achievement gains.

In meeting the needs of everyone involved in the co-teaching relationship, Gately and Gately (2001) have identified eight co-teaching components that all co-teaching relationships go through as they move toward a more collaborative relationship. Through identification of the eight co-teaching components, teachers recognize their strengths and weakness and build upon them to foster a collaborative relationship. Although ten teachers is a small sample size, it was still encouraging to observe that all the teachers were at the collaborating level and they were

working together as a team to meet the needs of all the students in their classrooms. At the collaborating level, Gately and Gately (2001) report that the teachers openly communicate and interact with one another. There is mutual respect and admiration for one another and the students benefit from the fluid movements and shared responsibility in the classroom. Unfortunately, the data reported was anonymous, so there was no way to link the results of the CtRS with the results of student learning outcomes or students perceptions of using CER in the classroom to observe if difference exist within this group of high collaborators. In addition, with the absence of co-teaching ongoing professional development, teachers did not have the opportunity to learn how to implement CER within the co-taught classroom.

In relation to CER and in summary of the research, teachers who collaborate, implement content enhancements and learn new strategies, foster a learning environment that meets the needs of all students in a regular secondary classroom. Actively involving students and incorporating strategic learning into the classroom are necessary components to help all students find learning a more rewarding experience and thrive in the classroom environment (Schumaker & Deshler, 1995).

Student Perceptions of Implementation of CER

Question three asked if differences exist in student perceptions of using CER in the classroom between co-taught and non co-taught settings. Overall, there was no statistically significant difference in student perception score, on average, based on instructional method, however there were differences in student perception scores between classes using the same instructional method (co-teaching vs. non co-teaching). There were slight mean differences when classes were matched based on the eleven teacher variables: a) completed professional development,) implementer of CER, c) position (grade level, subject), d) certification type, e)

138

in-field/out of field, f) school grade, g) years taught, h) education level, i) age, j) race and k) gender, which may have accounted for the differences in student perception scores using the same instructional method (co-taught or non-co-taught). In essence, there were variations within scores among teachers within the same teaching method (co-taught or non co-taught).

Limitations and Implications

Although NCLB and IDEA are both intended to provide better educational options for all students, some districts and schools may encounter difficulties in how to best implement the demands for standards based education and the requirement of providing an inclusive education (Lipsky, 2003). Both laws require the use of best practices in the classroom by highly qualified teachers. The push for using evidence based practices in schools comes from the concern that there is considerable distance between research and daily classroom practice and that effective evidence based practices are not being used in schools (Odom et al., 2005). The National Council on Disability (NCD) states that some teachers do not use effective evidence based practices due to lack of time and inadequate support of administrators (NCD, 2004).

The National Council on Disability (NCD) acknowledges that pressures associated with high stakes testing and lack of in depth information also contributes to a misuse of effective evidence based practices. The results of this study have shown thus far that with the support of their administrators, teachers are implementing CER, an evidenced based practice, in their secondary social studies classrooms and that students are responding favorably to their use of the routines. Students reported that their teachers helped students make connections, gave students opportunities to work in small groups and gave students opportunities to clarify misunderstandings, regardless of being in a co-taught or non co-taught setting. Consequently, the general education setting mirrored the co-taught setting or quite possibly the other way

around. The students in the co-taught setting were able to feel included in the classroom environment, work in groups and implement the routines as if they were in a general education setting and did not perceive the co-taught classroom to be any different than the students perceived the non co-taught classroom. This is important because so many times the special educator can be thought of as a distracter, or the co-taught classroom may be thought of as a special education class when in reality there is no difference in the way the students perceive the co-taught and non co-taught classrooms implementing CER. Similarly, students should be active, strategic learners in both settings.

In a recent study by Bulgren and Deshler (2000), students' perceptions of using CER in their classrooms were neither favorable nor unfavorable. Similar findings were found in the current investigation of how often students perceived using CER in their classrooms. Between both the co-taught and non co-taught settings, the students reported that teachers used the same CER behaviors the same number of times per week. Of the thirteen CER behaviors students were asked about, the one reportedly used most often in both the co-taught and non co-taught classrooms was how often the students felt they were given the opportunity to clarify misunderstandings, which fell between *Once or Twice a Week* and *Everyday* or *Almost Everyday.* The CER behavior reportedly used least often, again in both settings, was how often they were told to refer to the Course/Unit Organizer, which they reported at about *Less Than Once a Week.* The reason for this could be that the students completed the CER survey in the fourth quarter of the academic year and typically teachers introduce the Course/Unit Organizer earlier in the school year. Encouragingly, there weren't any CER behaviors that the students perceived *Never* occurring in either classroom setting.

Students' perceptions of using CER in the classroom mirrors best practices for inclusion and co-teaching. Essentially, teachers tell students what they are going to learn, guide them

through the process and then review what they have learned; all steps encouraged by researchers in inclusive, co-teaching environments (Deshler et al., 2001; Dieker & Little , 2005; Mastropieri & Scruggs, 2001). Deshler and colleagues (2001) recommend several strategies teachers can use to improve the instructional practice of students with disabilities including: involving students in the learning process, showing them how to process information, using specially structured materials to teach difficult information and providing students with helpful feedback and further instruction as needed. Improving content understanding for all students at the secondary level, including students with disabilities, can be achieved (Deshler et al., 2001). However, it is critical to focus attention on the instruction, content enhancement strategies, and supports provided to students and their teachers within all of the classroom environments.

Differences in Student Learning Outcomes

The fourth question in this study asked if differences exist in student learning outcomes in co-taught and non co-taught secondary social studies classrooms implementing CER. The nested ANOVA did not indicate a statistically significant effect for instructional method, and there was no statistically significant effect for the nested factor (classes within instructional method of co-taught or non co-taught). The results of this analysis suggest that there is no difference in developmental scale gain score on average, based on instructional method or in test scores between classes using the same instructional method.

Limitations and Implications

One of the most difficult complexities facing the field of special education today is how to mold individual students into the necessary components of a standards based education when

141

one size doesn't fit all (Odom et al., 2005). Educators are faced with the challenge of meeting the needs of individual students while being held accountable for the assessment of student learning of content area standards. By the year 2012, all students, including students with disabilities, will need to be proficient in the basic academic content areas, including reading. (Pascopella, 2003).

The current study examined reading scores of all students in secondary social studies co-taught and non co-taught classrooms implementing CER. Although the students in this study did not differ in terms of their developmental reading gain in co-taught and non co-taught settings, CER may still be a contributing factor to their individual success. The students still made developmental gains; however, there was no statistically significant difference between or within the two groups. Essentially, the students in both the co-taught and non co-taught settings are performing at the same level, there are no significant differences between the two groups. The co-taught classroom was able to provide the same CER instruction as the non co-taught environment while producing the same academic achievement in the students with and without disabilities.

After receiving professional development in the area of CER, the social studies teachers were required to implement the routines into their pedagogy and modify the way they presented material in order to incorporate the routines into their classrooms. The ongoing professional development and the implementation of the routines in their classrooms may have had an impact on FCAT reading scores because the teachers were providing students with more strategic learning opportunities. It is difficult to realize the implications of findings of the student outcome portion of the current study and relate them to other research studies because the comparable settings are different. This is one of the difficulties of evaluating special education research data because of the individual differences in settings and students (Odom et al., 2005).

Rea, McLaughlin and Walther-Thomas (2002) for example, found differences in student learning outcomes at the middle school level in favor of inclusive settings, however they were looking for a difference between inclusive and pullout special education settings. In looking at Zigmond's research (1997) on three different inclusive settings, half of the students did make gains on state assessments, but not enough to make a statistically significant difference.

One comparable study from Chapter Two, by Walsh and Snyder (1993), did investigate differences in ninth grade student learning outcomes in co-taught and comparable non co-taught classrooms. The researchers sampled close to 700 students and found significantly higher passage rates on statewide minimum competency tests by students in co-taught high school classes compared to students in similar general education classes. Promisingly, in relation to the implications of the current investigation and similar to the research findings by Magiera and Zigmond (2005), the co-taught and non co-taught settings were just as effective in producing comparable academic gains. Co-teaching may be leveling the playing field for the students who require the extra support for success in the general education classroom.

Recommendations for Practice

While considering best practices for secondary inclusion, the placement itself should not be the determining factor of student success; but instead the quality of the program being implemented (Zigmond, 2003). The current study can be broken down into two areas of recommendations for practice. The first area is in teacher implementation of best practices and the second area is in student learning outcomes, as they specifically relate to secondary inclusive co-taught settings implementing CER. In regards to teacher implementation, one recommendation for practice is the successful outcome of ongoing professional development. All the secondary social studies teachers received ongoing professional development in CER

throughout the 2005-2006 academic year. The teachers who were observed implementing CER had a 100% implementation rate. The teachers observed were all implementing CER in their classrooms, regardless of their participation in a co-taught or non co-taught setting. CER professional development was offered at least four times a year, including a follow-up session just to "check-in" with the participants. Aligning with the research on professional development by Darling-Hammond (2004) and Brownell and others (2005), ongoing, supportive professional development is key to the transfer of skills and implementation in the classroom.

On the contrary, the teachers who participated in co-teaching only attended one professional development session on co-teaching either during a previous year, or in August of the 2005-2006 academic year. While professional development can be beneficial, and although the teachers attended professional development on CER, they were not involved in ongoing professional development in co-teaching nor were they involved in any supportive follow-up sessions. Furthermore, teachers did not have additional training on how implementation of CER in a co-taught classroom may be different than in a non co-taught classroom. Further research is needed in the planning, professional development and intricacies of implementing CER in the co-taught classroom successfully.

In addition, different definitions exist for co-teaching in the state of Florida and within the district that may have had an influence on services actually provided in the classroom on a daily basis. A recommendation for practice is to offer ongoing professional development in the area of co-teaching. Additionally, it is recommended to not only have fidelity of implementation checks on CER but also on co-teaching. A uniform definition of co-teaching is also highly recommended.

Furthermore, fidelity of implementation needs to take place several times over the course of the year and not just once at the end of the school year. The variability in implementation

144

could occur at any point during the academic year and would be best supported over time. Performing fidelity checks with different observers would also enhance reliability and validity of the study. The addition of focus groups or interviews with teachers to gain in depth perspectives about what is occurring in the classroom would also enhance interpretation of what was occurring in the classroom.

From the data on the Coteaching Rating Scale (CtRS), teachers overwhelmingly reported that they did not have enough planning time or shared responsibility of planning, as well as shared instructional presentation of material. The special educators reported less time in instructional presentation of material than the general educators. Teachers may need additional professional development in this area as well as an administrative commitment to shared planning time.

In the area of student learning outcomes, the CER Student Perception Survey may not ask students enough information about their experiences with CER, especially as they pertain to a co-taught environment. The survey focused on how often students perceive CER practices occur in the classroom, however the addition of some questions on use or transfer of the routines may have assisted in the interpretation of the data results. Additionally, focus groups of students with and without disabilities, in co-taught and non co-taught settings, may have offered more insight into the practical implications of implementing co-teaching and CER in the classroom.

Most of the research studies on implementation of CER in the classroom use some sort of curriculum based measure as it pertains to the content being taught and not enough studies are completed including the intricacies of the co-taught classroom (Boudah & Lenz, 2000; Bulgren & Deshler, 2000; Bulgren et al., 2002a; Swanson, 2001). One difficulty with looking at measures of student learning outcomes by just focusing on FCAT reading developmental scale scores is that reading and literacy are not the only focus of the social studies curriculum. It

would be interesting to see if a pre/post measure as used in several studies on CER out of the University of Kansas Center for Research on Learning (Bulgren et al., 2002a) would yield different results. In addition it would be interesting to look at the dynamics of implementing CER in the co-taught classroom versus the non co-taught class as teachers are prepared to collaborate and co-teach in all aspects of the curriculum.

<div align="center">Recommendations for Future Study</div>

This study attempted to look at changes in student learning outcomes based on co-teaching in secondary social studies classrooms implementing CER. Recommendations for future study look at two areas of research, 1) gaps in the literature on co-teaching at the secondary level and 2) gaps in the literature in co-teaching at the secondary level in classes implementing CER.

Much research has been completed on process, procedures, best practices and challenges of co-teaching at the secondary level (Welch, Brownell & Sheriden, 1999). Conversely, there is a limited research base on how co-teaching benefits teachers and students with and without disabilities (Trent et al., 2003). A very limited research base exists on co-teaching as related to student learning outcomes. Recommendations for future study in co-teaching at the secondary level include how to distinguish between effective teaching and effective co-teaching and how co-teaching impacts student learning outcomes. Specifically, how do the complexities of co-teaching in a secondary environment impact students with mild disabilities both socially and academically. Is co-teaching making a positive or negative impact on student learning outcomes? How can administrators provide teachers with more planning time so they don't feel shortchanged in this area? Suggestions for further research in the area of co-teaching also

include creating policies and practices that result in on-going professional development in the area of co-teaching while documenting the implementation process (Trent et. al., 2003).

Recommendations for future study in the area of co-teaching in secondary classes implementing CER include providing supportive, ongoing professional development in both co-teaching and CER. In addition, recommendation for future study include the incorporation of a co-teaching student perception survey to analyze student input on the impact of co-teaching at the secondary level in classes implementing CER. Further research in the area of co-teaching and CER would incorporate a specific analysis of the roles and responsibilities of the special educator in a co-taught class which is implementing CER, and whether or not they have an impact on student learning outcomes at the secondary level. Additionally, with the dynamics of the co-taught classroom and expectations of the general and special educators in the implementation of CER professional development should include specific training in the area of implementing CER in a co-taught classroom.

Conclusion

The purpose of this study was to examine if differences exist in student learning outcomes between students who are instructed in a co-taught or non co-taught environment in secondary social studies classrooms implementing CER. Research demonstrates a need for explorations on student outcomes in co-taught settings (Murawski & Swanson, 2001; Weiss, 2004). Research also demonstrates that successful co-taught classrooms use a variety of cognitive strategies and resources (Dieker, 2001; Gately & Gately, 2001). Additionally research findings suggest that CER yield high results for students with learning disabilities at the secondary level when consistent and explicit instruction and use of routine is used (Deshler et.

al., 2001). This study incorporated the use of CER in co-taught and non co-taught settings at the secondary level and will likely lay the foundation for future studies in this area.

From the findings in the current investigation, placement of students in co-taught or non co-taught environments is not what had an impact on student growth, but quite possibly the use of a validated research based practice, CER. The findings are in alignment with the conclusions from Zigmond (2003) on where the best place is to educate students with disabilities. She states that

"…place is not what makes special education 'special' or effective. Effective teaching strategies and an individualized approach are the more critical ingredients in special education, and neither of these is associated with one particular environment (p.198)."

APPENDIX A
PROFESSIONAL DEVELOPMENT HANDOUTS

The professional Development Handouts from the Content Enhancement Routine (CER) sessions included PowerPoint presentations and materials from the University of Kansas Center for Research on Learning. The materials included information from the Cue, Do, Review Sequence.

The professional Development Handouts from the Co-teaching sessions included PowerPoint presentations and materials from the Florida Inclusion Network (FIN) team. The materials included information on classroom structures, roles and responsibilities, best practices and challenges in co-teaching as well as a planning session for co-taught teams to brainstorm ideas for the following academic year.

APPENDIX B
INTERNAL REVIEW BOARD

"Impact of Secondary Social Studies Teacher Implementation of Strategic Instruction

Model (SIM) Content Enhancement Routines and

Support Facilitation on Student Outcomes"

A Program Evaluation is being conducted on the impact of secondary Social Studies teacher implementation of Strategic Instruction Model (SIM) Content Enhancement Routines and Support Facilitation on student outcomes at the ███████████████████████ in conjunction with the University of Central Florida. The purpose of the study is to determine if teacher implementation of Content Enhancement Routines and the use of Support Facilitation in the classroom have an impact on student outcome.

You are being asked to take part in this study by allowing us to use the data collected during Professional Development on March 30, 2006. Throughout the semester a classroom observation will be conducted to evaluate teacher implementation of SIM Content Enhancement Routines and after the semester student data will be collected and disaggregated by teacher to determine the impact of professional development, teacher implementation and support facilitation have on student outcomes. Please be aware that you are not required to participate in this research and you may discontinue your participation at any time without penalty.

There are no risks associated with participation in this study. If you have further questions about your rights, information is available from the contact persons listed at the top of this consent form.

Your responses will be analyzed and reported anonymously to protect your privacy. Potential

benefits associated with the study include the knowledge and understanding of the impact of

professional development, teacher implementation and support facilitation on student outcomes.

If you agree to voluntarily participate in this research project as described, please indicate your

agreement by completing and returning the attached consent form. Please retain this cover form

for your reference, and thank you for your participation in this research.

If you believe you have been injured during participation in this research project, you may file a

claim with UCF Environmental Health & Safety, Risk and Insurance Office, P.O. Box 163500,

Orlando, FL 32816-3500, (407) 823-6300. The University of Central Florida is an agency of the

State of Florida for purposes of sovereign immunity and the university's and the state's liability

for personal injury or property damage is extremely limited under Florida law. Accordingly, the

university's and the state's ability to compensate you for any personal injury or property damage

suffered during this research project is very limited.

Information regarding your rights as a research volunteer may be obtained from:

<div align="center">

Barbara Ward, CIM

Institutional Review Board (IRB)

University of Central Florida (UCF)

12443 Research Parkway, Suite 207

Orlando, Florida 32826-3252

Telephone: (407) 823-2901

</div>

Thank you so much for your willingness to participate in this program evaluation. Your input is necessary for our continued planning for the Strategic Instruction Model (SIM).

Most sincerely,

Mary Little, Ph.D.,

Debbie Hahs-Vaughn, Ph.D.,

Kimberly Zgonc, M.A.,

INFORMED CONSENT TO PARTICIPATE

"Impact of Secondary Social Studies Teacher Implementation of Strategic Instruction Model (SIM) Content Enhancement Routines and Support Facilitation on Student Outcomes"

Print Name: _____

I have read the "Informed Consent to Participate" and agree to allow Mary Little, Debbie Hahs-Vaughn and Kimberly Zgonc to use the information I provide to conduct their classroom research.

_____

Signature   Date

APPENDIX C
CER IMPLEMENTATION CHECKLIST

OBSERVATION INSTRUMENT

CONTENT ENHANCEMENT ROUTINES

As you observe in the classroom, please complete all of the sections and address all of the questions.

Teacher: _____ School:_____Time of

Observation:_____

Grade Level:_____ Course Name:_____ Number of Students with

Disabilities:_____

Content Enhancement Routine Observed: _____ Lesson

Topic:_____

Number of Students: _____ Please List Other Professionals in

Classroom:_____

For each of the following behaviors, please check the appropriate box as per this observation.

	YES	NO
1. The teacher provided an overview of the Content Enhancement Routine.		
2. The teacher explained to the students the use of the device related to the learning task.		
3. The teacher provided a device on paper for each of the students.		

4. The teacher began the lesson asking questions about the topic.		
5. The teacher reviewed the mnemonic to CUE the students to use the Content Enhancement Routine.		
6. The teacher completed an example as a model for the students (DO).		
7. The teacher completed the device with student interaction, and did not give the students a completed form.		
8. The teacher encouraged input and interaction from most/all of the students.		
9. The teacher monitored that each student completed their device.		
10. The teacher REVIEWED the information on the device at the end of the lesson.		

Observation Completed by:_____

COMMENTS:

APPENDIX D
THE COTEACHING RATING SCALE

The Co-teaching Rating Scale
Special Education Teacher Format

Respond to each question below by circling the number that best describes your viewpoint:

	1 Rarely	2 Sometimes	3 Usually
1. I can easily read the nonverbal cues of my co-teaching partner.	1	2	3
2. I feel comfortable moving freely about the space in the co-taught classroom.	1	2	3
3. I understand the curriculum standards with respect to the content area in the co-taught classroom.	1	2	3
4. Both teachers in the co-taught classroom agree on the goals of the classroom.	1	2	3
5. Planning can be spontaneous, with changes occurring during the instructional lesson.	1	2	3
6. I often present lessons in the co-taught class.	1	2	3
7. Classroom rules and routines have been jointly developed.	1	2	3
8. Many measures are used for grading students.	1	2	3
9. Humor is often used in the classroom.	1	2	3
10. All materials are shared in the classroom.	1	2	3
11. I am familiar with the methods and materials with respect to this content area.	1	2	3
12. Modifications of goals for students with special needs are incorporated into this class.	1	2	3
13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The "chalk" passes freely between the two teachers.	1	2	3
15. A variety of classroom management techniques is used to enhance learning of all students.	1	2	3
16. Test modifications are commonplace.	1	2	3
17. Communication is open and honest.	1	2	3
18. There is fluid positioning of teachers in the classroom.	1	2	3
19. I feel confident in my knowledge of the curriculum content.	1	2	3
20. Student-centered objectives are incorporated into the curriculum.	1	2	3
21. Time is allotted (or found) for common planning.	1	2	3
22. Students accept both teachers as equal partners in the learning process.	1	2	3
23. Behavior management is the shared responsibility of both teachers.	1	2	3
24. Goals and objectives in IEPs are considered as part of the grading for students with special needs.	1	2	3

From: Gately, S. E., & Gately Jr., F. (2001). Understanding coteaching components. Teaching Exceptional Children,

33(4), 40-47.

The Co-teaching Rating Scale

General Education Teacher Format

Respond to each question below by circling the number that best describes your viewpoint:

	1 Rarely	2 Sometimes	3 Usually
1. I can easily read the nonverbal cues of my co-teaching partner.	1	2	3
2. I feel comfortable moving freely about the space in the co-taught classroom.	1	2	3
3. I understand the curriculum standards with respect to the content area in the co-taught classroom.	1	2	3
4. Both teachers in the co-taught classroom agree on the goals of the classroom.	1	2	3
5. Planning can be spontaneous, with changes occurring during the instructional lesson.	1	2	3
6. I often present lessons in the co-taught class.	1	2	3
7. Classroom rules and routines have been jointly developed.	1	2	3
8. Many measures are used for grading students.	1	2	3
9. Humor is often used in the classroom.	1	2	3
10. All materials are shared in the classroom.	1	2	3
11. I am familiar with the methods and materials with respect to this content area.	1	2	3
12. Modifications of goals for students with special needs are incorporated into this class.	1	2	3
13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The "chalk" passes freely between the two teachers.	1	2	3
15. A variety of classroom management techniques is used to enhance learning of all students.	1	2	3
16. Test modifications are commonplace.	1	2	3
17. Communication is open and honest.	1	2	3
18. There is fluid positioning of teachers in the classroom.	1	2	3
19. I feel confident in my knowledge of the curriculum content.	1	2	3
20. Student-centered objectives are incorporated into the curriculum.	1	2	3
21. Time is allotted (or found) for common planning.	1	2	3
22. Students accept both teachers as equal partners in the learning process.	1	2	3
23. Behavior management is the shared responsibility of both teachers.	1	2	3
24. Goals and objectives in IEPs are considered as part of the grading for students with special needs.	1	2	3

From: Gately, S. E., & Gately Jr., F. (2001). Understanding coteaching components. Teaching Exceptional Children,

33(4), 40-47.

DEMOGRAPHICS

1. Gender

Male

Female

2. Age

22-28

29-35

36-45

46-55

56+

3. Ethnicity

African American

American Indian/Alaskan Native/

Pacific Islander

Asian

Hispanic

White non-Hispanic

4. Highest education completed

Bachelor's degree

Master's degree

Ed.S.

Ed.D.

Ph.D.

5. Are you currently pursuing a higher degree?   Yes   No

6. Total number of years employed in an instructional position in the field of education _____

7. Which of the following is most closely aligned with your current position?

Elementary teacher

Middle school teacher

Secondary teacher

ESE Teacher

Secondary teacher

Counselor

Principal or assistant principal

Reading/literacy coach

Curriculum resource teacher

Other school administrator

Professional development coordinator

District administrators

Agency specialists/coordinators

8. If your current position is a teaching position, are you teaching in-field or out-of-field?

I am not currently in a teaching position

In-field

Out-of-field

9. What other positions have you held in the field of education?

I have not held any other positions other

than

what I selected in question #7

Elementary teacher

Middle school teacher

Secondary teacher

ESE Teacher

Secondary teacher

Counselor

Principal or assistant principal

Reading/literacy coach

Curriculum resource teacher

Other school administrator

Professional development coordinator

District administrators

Agency specialists/coordinators

10. Teaching certification

4 year college; Degree in Education

Alternative Certification Program

Completed the certification

11. Please indicate the types of Professional Development you have participated in:

Professional Development	2005-2006	Past School
	▬	▬
	▬	▬
	▬	▬
Support Facilitation		
Quality Design Instruction (QDI)		
Content Enhancement Routines – *Please List*		
Other		

THANK YOU!

APPENDIX E
CER STUDENT PERCEPTION SURVEY

CONTENT ENHANCEMENT ROUTINES SOCIAL STUDIES STUDENT SURVEY

Directions: Please read and answer each questions below based on your experience in this social studies course. Mark only one response to each question. This survey is being used to review the social studies program, not evaluate your teacher.

GRADE (please circle one):　　　　　　6　　7　　8　　9　　10　　11　　12

SUBJECT (please circle one):　　World Cultures　Civics　　　U.S. History (middle school)

　　　　World Cultural Geography　　　World History　　　American History　　　Government

　　　　Economics　　　　Elective

QUESTIONS	Never	Less than once a week	Once or twice a week	Everyday or almost everyday
1. How often are you told to refer to the Course Organizer/Map?				
2. How often are you told to refer to the Unit Organizers?				
3. How often do you use the Frame Routine?				
4. How often do you use other graphic organizers?				
5. How often are the course questions displayed?				
6. How often are you told what you need to do to participate in the lesson?				
7. How often how the lesson/plan will help you learn?				
8. How often are you told what you are going to learn at the beginning of the lesson (Big Picture)?				
9. How often are you told or asked why the lesson is important (main idea)?				
10. How often does your teacher tie previous lesson into past lessons (make a connection)?				
11. How often are you given or supplied with unit self-test questions?				
12. How often are you given the opportunity to you work in a small group or with a partner?				
13. How often are you given the opportunity to ask questions to clarify any misunderstandings?				

APPENDIX F
PROFESSIONAL DEVELOPMENT
CHART OF TEACHERS

Table 17

Professional Development

Teacher Code	Co-Teach	Course/Unit Organizer	Frame	Follow-up	Question Exploration	Recall
1	5/05	8/05	8/05	10/05	3/05	3/05
2		8/05	8/05	12/05	3/05	3/05
3	5/05	8/05	8/05	12/05	3/05	3/05
4		8/05	8/05	12/05	3/05	3/05
5	5/05	8/05	8/05	10/05	3/05	3/05
6		8/05	8/05	10/05	3/05	3/05
7	5/05	8/05	8/05	10/05	3/05	3/05
8		8/05	8/05	10/05	3/05	3/05
9	5/05	8/05	8/05	10/05	3/05	3/05
10		8/05	8/05	12/05	3/05	3/05
11	5/05	6/05	6/05		3/05	3/05
12		8/05	8/05	12/05	3/05	3/05
13	5/05	8/05	8/05	10/05	3/05	3/05
14		8/05	8/05	10/05	3/05	3/05
15	5/05	8/05	8/05	12/05	3/05	3/05
16		8/05	8/05	12/05	3/05	3/05

Teacher Code	Co-Teach	Course/Unit Organizer	Frame	Follow-up	Question Exploration	Recall
17	5/05	8/05	8/05	9/05	3/05	3/05
18		8/05	8/05	9/05	3/05	3/05
19	5/05	8/05	8/05	12/05	3/05	3/05
20		8/05	8/05	12/05	3/05	3/05
21	5/05	8/05	8/05	10/05	3/05	3/05
22		8/05	8/05	12/05	3/05	3/05
23	5/05	8/05	8/05	9/05	3/05	3/05
24		8/05	8/05	9/05	3/05	3/05
25	5/05	8/05	8/05	9/05	3/05	3/05
26		8/05	8/05	10/05	3/05	3/05
27	5/05	8/05	8/05	1/06	3/05	3/05
28		8/05	8/05	10/05	3/05	3/05
29	5/05	8/05	8/05	9/05	3/05	3/05
30		8/05	8/05	10/05	3/05	3/05
31	5/05	8/05	8/05	10/05	3/05	3/05
32		8/05	8/05	10/05	3/05	3/05
33	5/05	8/05	8/05	12/05	3/05	3/05
34		8/05	8/05	12/05	3/05	3/05

Note. Co-teach = Professional Development in Co-teaching; Course/Unit Organizer, Frame, Question Exploration and Recall = Professional Development in CER; Follow-Up = Professional Development Follow-up in CER Only.

APPENDIX G
TEACHER DEMOGRAPHICS

Table 18

Teacher Variables

Tch	CT	VI	SGr	Grade Level	Subject	Certif	I/O	Exp	Ed	Age	Race	Gen
1	Y	Y	A	6	WC	T		24	B	4	5	M
2	N	Y	A	6	GEO	T	I	3	M	1	5	M
3	Y	Y	A	7	CIV	T	I	29	M	4	5	F
4	N	Y	A	7	CIV	T	I	20	M	5	5	F
5	Y	Y	A	7	CIV	T	I	22	M	5	5	F
6	N	Y	A	7	CIV	T	I	33	M	4	5	F
7	Y	Y	A	7	CIV	T	I		B	5	5	F
8	N	Y	C	7	CIV	T	I		B	1	1	F
9	Y	Y	A	7	CIV	ALT	I	14	B	3	4	F
10	N	Y	C	7	CIV	T			B		1	F
11	Y	Y	A	7	CIV	T	I	23	M	5	5	F
12	N	Y	A	7	CIV	T	I		B	5	5	F
13	Y	Y	D	10/11	WH/AH	T	I	8	B	3	5	M
14	N	Y	C	9/10/11	WH/AH/E	T	I	16	B	3	5	M
15	Y	Y	A	9	E	ALT		16	B	3	5	F
16	N	Y	B	9	WCG	T	I	23	M	4	5	F
17	Y	Y	C	10	WH	ALT		3	B	3	1	F
18	N	Y	D	10	WH	T	I	20	B	3	5	F
19	Y	Y	A	11/12	ECON.	T	I	18	M	4	5	M

Tch	CT	VI	SGr	Grade Level	Subject	Certif	I/O	Exp	Ed	Age	Race	Gen
20	N	Y	C	10/12	WH/GOVN	T	I		B	4	5	M
21	Y	UV	A	8	USH	T	I	30	M	4	5	F
22	N	Y	C	8	USH	T	I	3	B	3	1	F
23	Y	UV	A	8	USH	T	I	14.5	B	3	5	F
24	N	Y	A	8	USH	T	I	6	B	1	5	F
25	Y	UV	A	8	USH	T	I	25	B	4	5	
26	N	Y	B	8	USH	ALT	I	6	M	5	5	
27	Y	UV	A	7	CIV	BinEd	I	10	B	3	5	F
28	N	UV	B	7	CIV	BinEd	I	3	M	1	5	M
29	Y	UV	A	6	WC	T		30	ED	5	5	F
30	N	UV	A	6	WC	T	I	28	B	5	1	F
31	Y	UV	B	10	WH	T	I	17	M	5	5	M
32	N	UV	D	10/11/12	E	ALT	I	8	ED	3	4	F
33	Y	UV	C	9/10/11/12	WH/AH	T		34	ED	5	1	F
34	N	UV	C	11	AH	T	O	8	M	3	5	F

Tch = Teacher Code (M=Middle School, H=High School), CT = Co-teaching (Y=Yes, N=No), VI = Verified Implementation (Y=Yes, UV=Un-verified), SGr = School Grade given by State for 2005-2006 school year, Grade Level = Grade Level Taught, Subject = Social Studies Subject Area (WC=World Cultures, GEO=Geography, USH=US History, CIV=Civics, WH=World History, AH=American History, ECON=Economics, WCG=World Cultural Geography, E=Elective, GOVN=Government), Certif = Certification Type (T=Test, ALT=Alternative Program or BinED=Bachelors in Education), I/O = Teaching In Field/Out of Field, Exp = Years Teaching Experience, Ed = Education Level (B=Bachelors, M=Masters, ED=Education Doctorate), Age (1= 22-28, 2= 29-35, 3=36-45, 4=46-55, 5=56+), Race (1=African American, 2= American Indian/Alaskan Native, 3=Asian, 4=Hispanic, 5=White Non-Hispanic), Gender (F=Female, M=Male) (Blank Space denotes information not provided at this tim

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179

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