# EXPLORING THE USE OF COOPERATIVE TEACHING MODELS AMONG STUDENT TEACHERS

A Dissertation
by
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Submitted to the Graduate School
at Appalachian State University
in partial fulfillment of the requirements for the degree of
DOCTOR OF EDUCATION

December 2013
Educational Leadership Doctoral Program
Reich College of Education

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December 2013

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**Abstract**

EXPLORING THE USE OF COOPERATIVE TEACHING MODELS AMONG STUDENT TEACHERS

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The purpose of this study was to investigate the relationship between cooperative teaching and student teaching and explore the possibility that cooperative teaching models could provide a practical framework for addressing the fundamental components of 21st century student teaching. This study focused on an identified convenience sample of practicing student teachers. Data collected described participants' frequency of use and attributed knowledge base of cooperative teaching models along with perceived supports and barriers that influenced the use of identified cooperative teaching models. The results from this study show that participants are using cooperative teaching models in instruction during the student teaching experience; however, differences exist between the frequency of use of the three selected models of cooperative teaching. Supportive cooperative teaching was used most frequently, followed by complementary cooperative teaching and parallel cooperative teaching. Results show that student teachers attributed their knowledge of cooperative

teaching models to many sources and identified specific supports and barriers to the use of cooperative teaching models. This study could have implications for the way student teachers are trained to use cooperative teaching models, as the application of a cooperative teaching framework for student teaching is a relatively new area of study.

**Acknowledgements**

I am appreciative of the many people who provided guidance and support throughout my achievement of this study. I owe particular gratitude to the following:

- Dr. Roma B. Angel, my dissertation committee chair: Thank you for your patience, wisdom, and fortitude in assisting me with the design and completion of this project.
- Dr. Monica A. Lambert, Dr. Carla K. Meyer, and Dr. Sharon M. Richter, my dissertation committee members: Thank you for lending your time, guidance, and expertise to my project and for encouraging critical thinking with regard to my writing.
- Dr. Jim Killacky and Dr. Vachel Miller, doctoral program directors: Thank you for your continuous contact and encouragement throughout this process.
- My husband, Dan McGuire: Thank you for your love, support, and patience throughout my journey. You have been with me every step of the way and have encouraged me to make the impossible possible.
- My children, Brandon, Kristian, Carson, and Katheryn: Thank you for your understanding and patience, when research had to come before other more enjoyable things. I pray that each of you can see that through hard work, persistence, and faith, a dream can become a reality.
- My family, friends, and colleagues: Thank you for listening to my worries, concerns, and celebrations and for your encouragement throughout this process.

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# Chapter One

## Introduction

Over the past decade, expectations for teachers have increased significantly, ranging from meeting more rigorous licensure requirements and increased professional development demands to increasingly demanding curriculum content. Added pressures of the accountability movement, such as increased testing and differentiating instruction to meet the diverse needs of students, provide further challenges to teachers with already overflowing schedules (Ball & Forzani, 2010; Cochran-Smith, 2005; Day, 2000; Marshall, Fittinghoff, & Cheney, 1990). In addition, new developments in technology continue to change approaches to teaching, through the growing capacity, capability, and power of technology-based tools and resources, affecting not only how students learn, but also how teachers teach (Caillier & Riordan, 2009; Colbert & Wolfe, 1992; Hyslop-Margison & Sears, 2010; Worthy, 2005). A change in how teachers approach teaching is necessary, as traditional methods of teaching and preparation for teaching all students independently are no longer sufficient (Bauwens & Hourcade, 1997; Cookson, 2005).

Consequently, there have been a number of recent efforts to improve teacher effectiveness and increase student outcomes, including the Race to the Top initiative; the promotion of Science, Technology, Engineering, and Math (STEM) Education; and the adoption of Common Core State Standards. First, the Race to the Top initiative uses rigorous college- and career-ready standards for instruction and assessment, with appropriate support for educators to ensure all students learn and succeed. Further, Race to the Top prioritizes the

need for highly qualified teachers to teach students to think critically and learn deeply in the areas of science and math. Additionally, the Common Core State Standards established a set of clear evidence-based educational measures, including rigorous content and skills, for kindergarten through 12th grade in English Language Arts and Mathematics (Porter, McMaken, Hwang, & Yang, 2011). These recent efforts to improve teaching and learning foster 21st century skills and readiness, which include a focus on areas such as creativity, critical thinking, problem solving, and communication, in order to prepare students for tomorrow's workplace (The Partnership for 21st Century Skills, 2013).

In addition to recent efforts to improve effectiveness in teaching and learning, current federal legislation also seeks to improve educational practices. An increased focus was placed on meeting the needs of all students with the requirements of the reauthorized Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 (Pub. L. No. 108-446) and the No Child Left Behind Act (NCLB) of 2001 (Pub. L. No. 107-110). IDEIA requires all students with disabilities to participate in a general education curriculum and assessment in the least restrictive environment. As a result, increased cooperation among general education teachers and special education teachers was essential to provide the needed services and supports for students with disabilities (Nevin, Thousand, & Villa, 2009). Similarly, NCLB required that all students participate in the general education curriculum, called for instruction by highly certified teachers, and held schools and teachers accountable for academic progress of all students, including those with disabilities.

Consequently, in order to improve instruction for all students, more collaboration with other professionals is needed. Recent research has indicated that professional collaboration among teachers has many benefits. First, collaboration among teachers can

result in improved classroom instruction, as teachers work together to consider how to improve practices in ways that promote student achievement (Parsad, Lewis, Farris, & Greene, 2001). Additionally, Leo and Cowan (2000) and Hord (1998) identified collaboration focused on student learning as an essential ingredient in a successful school environment. Kennedy (2003) noted the need for teachers to be involved in collaborative relationships and the value of collaboration related to instructional improvement. Most recently, Laurillard (2013) called for teachers to work collaboratively to design effective, innovative teaching strategies to meet the needs of a 21st century education system.

Recent research also indicates that many teachers are not prepared for collaboration. For example, a survey of 898 elementary teachers in 50 schools found that teachers were more likely to collaborate when high levels of trust between colleagues existed; however, efforts to increase levels of trust through professional development or team building activities were not in place (Tschannen-Moran, 2001). Additionally, results from a survey of 452 teachers in 47 elementary schools in the mid-western United States indicated that although teacher collaboration was a notable factor in increased levels of student achievement, not all schools offered opportunities for teachers to collaborate (Goddard, Goddard, & Tschannen-Moran, 2007). In addition, interviews conducted with 20 educators in New York found that, although they recognized teacher collaboration as an essential strategy for student success, many felt uncomfortable with the process due to lack of experience (Magiera et al., 2006).

Despite the need to expose pre-service teachers to collaborative practices prior to beginning their teaching career, many universities still prescribe a traditional approach to teacher preparation (Ball, Sleep, Boerst, & Bass, 2009). Under the conventional solo model of student teaching, teacher candidates gradually move from observation of master teachers

to assumption of full, unassisted responsibility for a classroom (Darling-Hammond, 2006). Few opportunities during coursework or clinical experiences are provided for pre-service teachers to observe collaborative practices or work in conjunction with other educators to deliver instruction (Bacharach, Heck, & Dahlberg, 2006; Darling-Hammond, Cheung, & Frelow, 2002; Glenn, 2006). Researchers have indicated that this traditional approach fails to prepare prospective teachers to work in partnership with other educational professionals, which is critical to meet the needs of 21st century P-12 students (Bacharach, Heck, & Dahlberg, 2010; Coggshall & Lasagna, 2009; Darling-Hammond, 2006). Researchers have also recommended a strengthening of clinical experiences can occur by implementing practices that promote collaboration (Darling-Hammond, Hammerness, Grossman, Rust, & Shulman, 2005). Specifically, the use of collaborative practices during the student teaching experience will likely assist pre-service teachers with a gradual transition from the periphery of teaching to full immersion in the field, while providing them with the collaborative skills essential for 21st century teachers (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007; Goodnough, Osmond, Dibbon, Glassman, & Stevens, 2009). Student teachers rarely have opportunities to participate in collaboration with other educational professionals; thus, there remains a deficit of collaborative work in practical experiences.

Given that student teaching is essential in pre-service teachers' preparation, the design of student teaching experiences must address the complex realities of the 21st century classroom (Darling-Hammond & Cobb, 1995; Goodson, 1993; Korthagen & Kessels, 1999; Maandag, Folkert Denium, Adriaan Hoffman, & Buitink, 2007; Wang, Coleman, Coley, & Phelps, 2003; Zeichner, 2002). Primary goals of the modern day student teaching experience include ensuring that future teachers develop a deep understanding of subject matter

(Hammerness, Darling-Hammond, & Shulman, 2002); learn to address common P-12 student misconceptions (Caires & Almeida, 2007); use various teaching strategies for different purposes (Chelsey & Jordan, 2012; Danielson, 2007; Grant & Gillette, 2006); and effectively evaluate student learning (Nilssen, 2010). In addition, student teachers must be able to work cooperatively with their cooperating teacher and other educational professionals while also reflecting on their own practice to improve instruction (Danielson, 2007; Darling-Hammond, 2008; Feiman-Nemser, 2001).

Despite the importance of the student teaching experience, research has shown that many student teaching experiences are lacking important considerations. At a Texas university, researchers surveyed 44 practicing student teachers regarding the importance of mentoring during the student teaching experience. Results indicated that although mentoring provided by cooperating teachers was viewed as being very important for student teachers' success, cooperating teachers were unwilling to provide mentoring (Hobson, Harris, Buckner-Manley, & Smith, 2012). An analysis of portfolios completed by 25 practicing elementary student teachers at Halmstad University found that student teachers recognized a need for a strengthening of their knowledge of appropriate teaching methods (Nilsson, 2008). Interviews completed by Anderson and Stillman (2011) at the University of Southern California focused on the strengths and weaknesses of the student teaching experience as noted by 11 first-year elementary teachers. Participants expressed a greater need for opportunities to learn about curriculum and collaborate with more experienced professionals. Results from these studies indicate student teaching experiences could benefit from placing student teachers with experienced cooperating teachers. In addition, cooperating teachers

should be prepared to mentor student teachers, use collaborative teaching practices, and model effective teaching strategies.

Teacher preparation is influential on the practices many teachers use. Four teacher preparatory programs have attempted to improve their focus on the use of collaboration in teaching. Teacher preparation programs found at Appalachian State University, St. Cloud State University, the University of Colorado-Boulder, and the University of Southern Indiana have provided readiness training during coursework and clinical experiences for pre-service teachers in the use of collaborative approaches (Gamble, Risk & McCalister, n.d.; Kelley, 2004; Rietman, 2012; St. Cloud State University College of Education, 2011). In addition, practicing teachers working in collaborative relationships with pre-service teachers receive support through professional development sessions that describe the benefits of using collaborative models. As teacher educators are more likely to use collaborative models in their own practice if they experience them during their teacher preparatory program, pre-service teachers must have an opportunity to observe and engage in these effective collaborative relationships before entering the classroom (Kluth & Straut, 2003; Pugach & Blanton, 2009).

One existing framework that supports collaboration between educators is cooperative teaching. Although cooperative teaching is traditionally implemented in the field of special education, it is a viable framework to address the needs for collaboration during student teaching. Specifically, it allows the student teacher and cooperating teacher to work cooperatively to deliver instruction and promote student achievement (Bacharach et al., 2010; Bauwens, Hourcade, & Friend, 1989; Salend & Johansen, 1997; Walther-Thomas, 1997). This partnership provides increased opportunities for the student teacher to strengthen

understanding of curriculum and appropriate teaching strategies, while receiving mentoring, coaching, and supervision from the cooperating teacher (Bouck, 2007; Chapman & Hyatt, 2011; Kloo & Zigmond, 2008; Villa, Thousand, & Nevin, 2008). While using cooperative teaching, student teachers and cooperating teachers share responsibilities for planning, instruction, assessment, and classroom management (Bacharach et al., 2010; Bauwens & Hourcade, 1997; Salend, 2008). Cooperative teaching also assists student teachers in developing the knowledge, skills, and dispositions required for teaching (St. Cloud State University, 2011).

Furthermore, research on the use of cooperative teaching during student teaching shows promise. A two-year study at a Midwestern state university on the use of cooperative teaching among 60 student teachers found that successful co-teaching arrangements were possible when key elements of planning, communication, classroom applications, and co-teaching knowledge were addressed (Bacharach et al., 2006). An additional study at the University of St. Cloud found that successful collaboration could occur between student teachers and cooperating teachers using cooperative teaching (Ofstedal & Dahlberg, 2009).

The importance of collaboration among educators is clear throughout professional literature (Darling-Hammond & Bransford, 2005; Roth & Tobin, 2004; Suarez-Orozco & Sattin, 2007). Further, collaboration between student teachers and cooperating teachers during the student teaching experience is also well established (Fischer & Mandl, 2005; Heck, Bacharach, & Mann, 2010; Murawski & Hughes, 2009). No studies have investigated the use of specific cooperative teaching models including (a) supportive cooperating teaching, (b) parallel cooperative teaching, and (c) complementary cooperative teaching as a framework for student teaching. Similar to studies completed by Bacharach et al. (2006) and

Ofstedal and Dahlberg (2009), the use of cooperative teaching as a support to the development of the knowledge and skills needed to teach diverse students and encourage the development of skillful teaching among student teachers is investigated in this study. However, the current study differs as it explores the use of a cooperative teaching framework for 21st century student teaching.

**Introduction to Problem**

Because of the increasing complexity required of teachers and the need to have well-trained teachers entering the profession, a new framework for student teaching is necessary. At the center of this framework, an emphasis on collaborative work is essential to prepare new teachers to complete the intricate tasks of teaching. The use of a cooperative teaching framework for student teaching is ideal to foster collaboration among student teachers, cooperating teachers, and other educational professionals.

**Models of Cooperative Teaching**

This study examined three models of cooperative teaching drawn from research: (a) supportive cooperative teaching, (b) parallel cooperative teaching, and (c) complementary cooperative teaching. The three models represent a combination of cooperative teaching models identified in research and all rely on the collaboration of cooperating teachers.

The first cooperative teaching model used in the study was supportive cooperative teaching. Supportive cooperative teaching requires the presence of both teachers in the classroom, with one teacher assuming the lead for delivering instruction (Villa, Thousand, & Nevin, 2004). This model is favorable for use when one teacher has greater knowledge and skills and is often used as a form of coaching between cooperative teachers (Bauwens et al., 1989).

The second cooperative teaching model used in the study was parallel cooperative teaching. Parallel cooperative teaching requires cooperative teachers to plan jointly for instruction, then work separately to deliver instruction (Bauwens et al., 1989). Cooperative teachers may split the class in half and deliver instruction at the same time or have students working at stations in the classroom while teachers work with smaller groups of students. This cooperative teaching model requires active participation in instruction by both teachers (Cook & Friend, 1995).

The third cooperative teaching model used in the study was complementary cooperative teaching. In this model, one teacher assumes responsibility for teaching the whole class while the second teacher works with a smaller group of students. Instruction provided to the smaller group may be for pre-teaching or re-teaching material or supplementing regular instruction (Villa et al., 2004).

**Research Questions**

This study focused on examining the use of cooperative teaching models during the student teaching experience. Zeicher (2002) noted the importance of pre-service teacher education programs providing high quality student teaching experiences. Further research has suggested that successful collaboration between student teachers and cooperating teachers during the capstone clinical experience leads to better outcomes for students and student teachers (Bacharach et al., 2010; Ofstedal & Dahlberg, 2009). It is important for pre-service teacher education programs to evaluate student teaching experiences by asking the fundamental question: *"Are we providing the best opportunities for prospective teachers to learn and practice the collaborative skills necessary for instruction in 21st century classrooms?"* This fundamental question led to the development of the question that served

as the impetus for this research: *"How is cooperative teaching used during the student teaching experience?"* The following research questions emerged to guide this study:

1. Which cooperative teaching models do student teachers use?
2. To what source do student teachers attribute their knowledge of cooperative teaching models?
3. How are cooperative teaching models considered and integrated by student teachers when planning for instruction?
4. What are the perceived supports and barriers that influence the use of cooperative teaching models by student teachers during student teaching?

Understanding these questions through further examination of the role cooperative teaching plays in the student teaching experience are issues for all teacher education programs. Information gleaned from this examination will be available to teacher education programs concerned with the development of collaborative clinical experiences focused on the use of cooperative teaching models as effective teaching practices. Finally, this study may help influence the student teaching framework of universities and the preparation student teachers receive to work in partnership with other educational professionals to address the diverse needs of 21st century students.

**Methodology**

This study used survey methodology to collect data about the use of cooperative teaching models among practicing student teachers. In this study, a questionnaire collected descriptive data on how student teachers are using cooperative teaching models and on the sources to which student teachers attribute their knowledge of these cooperative teaching

methods. This study also identified perceived barriers and supports of cooperative teaching methods when implemented during the student teaching experience.

Data were collected during the spring semester of the 2012-2013 academic year. Participants in the study were an identified convenience sample of student teachers at a university in the Southeast. Participants were enrolled in the teacher preparation program and were involved in the student teaching experience at the time of the survey. Student teachers in the convenience sample were selected as participants for this research study as the selected university encourages the use of cooperative teaching models during the student teaching experience (Reich College of Education, 2013). Data collection occurred during the second five-week period of the student teaching experience, using an Internet questionnaire. Members of the convenience sample varied in grade level and/or content area.

The questionnaire assessed the knowledge level and current use of cooperative teaching models by the participants during the student teaching experience. In addition, participants named sources of their knowledge of cooperative teaching models. Further, participants identified supports and barriers to the use of cooperative teaching models.

**Significance of Issue**

This study is significant as it is one of few studies investigating how cooperative teaching can serve as a framework for student teaching in the preparation of pre-service teachers. A rationale for examining the use of a cooperative teaching framework for the student teaching experience results from the need for teacher education programs to prepare pre-service teachers with the knowledge, skills, and dispositions needed to meet the needs of 21st century classrooms (Alter & Coggshall, 2009; Hassel, Walter, & Hayden, 2002). Pre-service teachers must have the ability to work collaboratively with more experienced

professionals in order to ensure the instructional needs for a heterogeneous student population are met (Boudah, Schumacher, & Deshler, 1997; Murawski & Hughes, 2009).

This study is also important in that it identified the source to which student teachers attribute their knowledge of cooperative teaching models. Research verifies that training in the proper use of cooperative teaching models is necessary for effective implementation (Cramer & Nevin, 2006; Magiera, Smith, Zigmond, & Gebauer, 2005). Combining mentoring, coaching, and collaboration with cooperating teachers are critical for teacher education programs to remain grounded in helping pre-service teachers' master specific techniques for delivering instruction and promoting student achievement (Berry, Montgomery, & Snyder, 2008; Darling-Hammond & Bransford, 2005; Laine, Behrstock-Sherratt, & Lasagna, 2011). For example, Coggshall and Lasagna (2009) cited the need for teachers to work together to meet the learning needs of all students. Chesley and Jordan (2012) also noted the need for high quality teacher education programs that provide pre-service teachers with opportunities to work closely with mentor teachers to develop the collaborative skills needed for today's classrooms. By identifying the source to which student teachers attribute their knowledge of cooperative teaching models, teacher preparation programs may have further insight as to whether an increased focus on cooperative teaching models is needed in coursework and clinical experiences.

While there are many factors that contribute to the overall value of the student teaching experience, such as mentoring and guidance from cooperating teachers (David, 2000; Feiman-Nemser & Parker, 1993) and supportive university supervisors (Guyton, 1987; Morin & Lemlach, 1987), the focus of this study is to examine the use of a cooperative teaching framework for the student teaching experience. The lack of literature on the use of

cooperative teaching as a framework for preparing student teachers for collaborative teaching pointed toward a need for additional studies in this area. Although teacher preparation programs at some universities have collaborative teaching practices embedded in clinical experiences, few studies document the use of a cooperative teaching framework for the capstone student teaching experience (Bacharach et al., 2006; Nevin et al., 2009). It is my hope that the use of cooperative teaching as a framework for the student teaching experience has promise as a specifically promoted practice in student teaching.

This study has the potential to provide valuable information to universities with teacher preparation programs as they consider the use of a cooperative teaching framework for the capstone student teaching experience. In addition, it promises to have value for professional development of in-service teachers and with building and district level leadership preparatory programs. Teacher preparation programs could use results from this study to identify specific cooperative teaching models used more often by student teachers in P-12 classrooms. In addition, results from the study identified the sources to which student teachers attribute their knowledge of cooperative teaching methods. This could have a significant impact on the planning and delivery of undergraduate methods courses in educational theory and practice, as well as how course work and clinical experiences align. Introduction of cooperative teaching models early in the teacher preparatory program and use of these collaborative practices throughout clinical experiences would help to shape pre-service teachers' perspectives of the importance of working with more experienced professionals in educational settings (Kamens, 2007). Additionally, the use of cooperative teaching models within all clinical experiences would provide pre-service teachers with opportunities to work collaboratively with varied partners in different classrooms.

This study also has potential for school administrators and cooperating teachers, as it will identify student teachers' perceived supports and barriers that influence the use of cooperative teaching. Results can assist administrators and cooperating teachers in their pivotal role of ensuring proper supports are in place for student teachers in classrooms using cooperative teaching models (Hourcade & Bauwens, 2002). This information is also important for university supervisors as they work with local school districts to provide support necessary for the development of student teachers and their readiness for the collaborative work required in 21st century classrooms (Pugach & Johnson, 2002).

**Definition of Terms**

This study focuses on the use of a cooperative teaching framework for the student teaching experience. Clarification of specific terms is essential to understanding this study.

- **Cooperative Teaching Models**: The use of cooperative teaching models involves two or more professional educators engaged in multiple approaches to the planning and delivery of instruction to a diverse group of students in a single classroom (Cook & Friend, 1995; Luckner, 1999). For the purpose of this study, cooperative teaching models involve a student teacher and cooperating teacher sharing the physical space of a classroom to deliver instruction to groups of students.
- **Public schools**: Rodgers and Jenkins (2010) define public schools as "schools almost always organized within school districts that receive most of their funding from the state" (p. 137).
- **P-12**: P-12 refers to grade levels pre-kindergarten through 12th grade. For the purpose of this study, this term describes elementary and secondary education.

- **Students**: Students are children in P-12 schools (National Council for Accreditation of Teacher Education [NCATE], 2012).
- **Student Teacher**: A student teacher is a pre-service teacher near the end of their teacher preparation program assigned to a final field experience in a P-12 school under the supervision of a certified teacher (Bullough et al., 2002).
- **Student Teaching**: Student teaching defined by NCATE (2012) is "pre-service clinical practice in P-12 schools for candidates preparing to teach." For the purpose of this study, student teaching is synonymous with the capstone clinical experience, and involves a 10-15 week placement in a P-12 classroom (Rodgers & Jenkins, 2010).
- **Clinical Experiences**: According to NCATE (2012), clinical experiences are synonymous with field experiences and are "a variety of early and ongoing field-based opportunities in which candidates may observe, assist, tutor, instruct, and/or conduct research."
- **Institutions of Higher Learning**: Institutions of higher learning are defined by NCATE (2012) as "schools, colleges, or departments of education in a university, or non-university provider."
- **Teacher Preparation Programs**: A teacher preparation program, defined by the Higher Education Act (2007) is a "state approved course of study, the completion of which signifies that an enrollee has met all the state's education requirements, or training requirements, or both, for initial certification or licensure to teach in the state's elementary or secondary schools." This preparation may occur through a regular program or an alternate route to certification and may be within or outside an institution of higher learning.

- **Cooperating Teacher**: A cooperating teacher is a licensed educator who provides instruction, supervision, and direction for teacher candidates in P-12 classrooms during the student teaching experience (Rodgers & Jenkins, 2010). For the purpose of this study, mentor teacher is synonymous with cooperating teacher.
- **General Education Teacher**: A general education teacher is any teacher certified to provide instruction in a P-12 classroom (Ben-Peretz, 1995). For the purpose of this study, general education teacher is synonymous with regular education teacher. According to NCATE (2012), general education teachers provide an education including literature, mathematics, sciences, social studies, history, arts, communications, and philosophy using multicultural and global viewpoints.
- **Special Education Teacher**: A special education teacher is any instructor with expertise and knowledge about age-appropriate curriculum standards and methods for teaching students with disabilities (Gersten & Santoro, 2007).
- **Individuals with Disabilities Education Improvement Act (IDEIA)**: The Individuals with Disabilities Education Act of 1997 (IDEA) required access for special education students to the general education curriculum in the least restrictive environment. Reauthorized in 2004 and renamed the Individuals with Disabilities Improvement Act (IDEIA), it combined with the No Child Left Behind Act (NCLB) of 2001 to ensure collaboration between general education teachers and special education teachers, guaranteeing all students had access to highly qualified teachers and make adequate academic progress.
- **No Child Left Behind Act (P.L. 107-110, 2001)**: The No Child Left Behind Act (NCLB) requires that all students be given access to the general education

curriculum; calls for instruction by highly certified teachers; and holds schools and teachers accountable for academic progress of all students, including those with disabilities (Yell, 2005).

**Organization of the Study**

Chapter I introduces the purposes and goals of student teaching and the importance of using cooperative teaching models to foster collaboration during the capstone clinical experience. Chapter II provides a review of the literature related to the needs of student teachers, the requirements of the capstone clinical experience, the various tenets of cooperative teaching models and possible significance for use of a cooperative teaching framework for student teaching. Chapter III describes the research methodology used in this study. Chapter IV presents findings of the study, identifying which cooperative teaching models are most commonly used during the student teaching experience, what source student teachers attribute their knowledge of cooperative teaching models, and perceived supports and barriers that affect the use of cooperative teaching. Chapter V consists of a review of the findings from the study and conclusions. This chapter also addresses limitations and possible implications for this study.

I have examined the problems evident in traditional solo model of student teaching with the need for a more collaborative model of clinical experiences in teacher education programs and the way in which a cooperative teaching framework for the student teaching experience might shed light on this issue. In chapter II, I will examine specific cooperative teaching models to use in establishing strong, purposeful student teaching experiences that develop collaborative skills essential for 21$^{st}$ century educators.

# Chapter Two

## Review of the Literature

The way we look at teaching is transforming. Enormous changes are apparent in the knowledge, skills, and expectations for 21st century teachers. Teachers of today must prepare to embed 21st century knowledge and skills in all curricular subjects and provide focused collaborative instruction to an increasingly diverse student population. In addition, teachers must possess a deep understanding of subject matter, effectively address common student misconceptions, use a variety of teaching strategies, and effectively evaluate student learning (Caires & Almeida, 2007; Chelsey & Jordan, 2012; Danielson, 2007; Grant & Gillette, 2006; Hammerness et al., 2002; Nilssen, 2010). Consequently, collaboration with other educational professionals is essential in order to provide appropriately focused instruction that uses effective teaching strategies, builds upon the strengths of each educator, and meets the needs of all students (Danielson, 2007; Darling-Hammond, 2008; Laurillard, 2013).

As a result, preparation of prospective teachers for the 21st century classroom necessitates a paradigm change in the preparation of teachers. Traditional approaches for preparing student teachers to perform classroom duties independently are no longer adequate (Villa et al., 2008). Teachers must be prepared to work collaboratively in communities of practice, use innovative teaching strategies to teach the curriculum, understand the alignment of assessments to curricular standards, and function effectively in a diverse environment (Bacharach et al., 2010; Bauwens, Hourcade, & Friend, 1989; Salend & Johansen, 1997;

Walther-Thomas, 1997). In short, these 21st century expectations necessitate a transformation of student teaching, the capstone teacher education experience.

For this transformation to occur, student teachers must experience a capstone internship that is qualitatively different from the traditional student teaching experience. The new student teaching experience must include, by design, embedded opportunities for collaboration with experienced teachers recognized for good teaching. Specifically, teacher preparatory programs must plan for collaborative student teaching experiences that allow pre-service teachers to plan for focused instruction aligned with state and national standards, embed 21st century skills into appropriate instructional goals, and assess students' growth (Bouck, 2007; Chapman & Hyatt, 2011; Kloo & Zigmond, 2008; Villa et al., 2008).

The instructional framework of the teacher preparatory program is instrumental in defining the student teaching capstone experience. In turn, the student teaching experience is highly influential in defining the teaching practices of teachers emerging from degree programs. The student teaching experience plays an important role in shaping how prospective educators learn, develop, practice, and refine 21st century curriculum, planning, and instruction. As prospective educators should use innovative teaching strategies, modern learning technologies, and authentic resources and contexts throughout clinical experiences, teacher preparatory programs must adopt an appropriate framework to guide these practices throughout all clinical experiences, including student teaching (Darling-Hammond, 2006).

A cooperative teaching framework facilitates the use of collaborative practices during the student teaching experience. Building upon Vygotsky's Zone of Proximal Development (ZPD), a cooperative teaching framework stresses the social interaction and collaboration between the student teacher and cooperating teacher necessary for furthering knowledge

about teaching. The purpose of this exploratory study is to examine the usefulness of a cooperative teaching framework for student teaching and examine how practicing student teachers are using and understanding the three models created for the framework. The cooperative teaching framework for this study consists of three models derived from an in-depth review of literature on cooperative teaching: (a) supportive cooperative teaching, (B) parallel cooperative teaching, and (c) complementary cooperative teaching.

In order to understand how cooperative teaching might provide an appropriate instructional framework for student teaching, it is important to identify the needs of student teachers and the requirements of the capstone clinical experience in the 21st century. Therefore, the first section of this literature review focuses on the identified fundamental components of 21st century student teaching. The second section focuses on the underlying principles of cooperative teaching models, the implementation in classroom practice, and the benefits for student learning. The third section focuses on how the identified needs of 21st century student teaching are supported by cooperative teaching models. The final section outlines the conceptual framework used in this study.

**Requirements of 21st Century Student Teaching**

Today's new teachers must be prepared with 21st century knowledge and skills and be ready to integrate those components successfully into P-12 classroom practices. In order to prepare prospective teachers, teacher preparatory programs must transform the way they train new teachers to teach, as changes are required to respond to the needs of 21st century learners. These changes include an increased need for the modeling of effective collaborative relationships throughout the teacher preparatory program. Today's teacher education programs need curriculum and instruction that addresses both content and skills as well as

structured clinical experiences that ensure prospective teachers learn how to plan effectively, establish appropriate instructional goals for students and evaluate students' growth. This comprehensive approach to teacher education creates an exciting vision for teacher preparation (Darling-Hammond, 2006; Little & Robinson, 1997; Richardson, 1990).

As a result, traditionally used practices of individualism in clinical experiences are no longer appropriate to prepare prospective educators for today's classrooms. Clinical experiences must engage prospective teachers in collaboration within communities of practice where 21st century skills are embedded in focused instruction aligned with state and national standards and designed to target students' different learning needs (Arthaud et al., 2007; Bacharach et al., 2010; Coggshall & Lasagna, 2009; Danielson, 2007; Darling-Hammond & Bransford, 2005; Darling-Hammond, 2006; Goodnough et al., 2009). To understand the current state of teacher education programs, with specific regard to student teaching standards, the following sections examine the fundamental components of 21st century student teaching and national and state standards established for this final clinical experience.

After a review of the literature, three fundamental components of 21st century student teaching emerged: (a) instruction focused on 21st century skills of collaboration, community connections, and problem solving; (b) newly designed clinical experiences connecting theory with practice in authentic settings; and (c) opportunities for collaboration, coaching, mentoring, and modeling with other educational professionals. Teacher education programs must consider the fundamental components of student teaching to ensure preparation for collaborative work in 21st century classrooms. First, programs must provide opportunities for pre-service teachers to offer instruction focused on 21st century skills including collaboration,

community connections, and problem solving in all subject areas. Further, teacher preparatory programs must redesign clinical experiences that connect theory with practice in authentic settings. Additionally, opportunities involving collaboration, coaching, mentoring, and modeling with experienced educational professionals must occur. Table l shows the relationship of the identified fundamental components of teacher preparation programs with current literature on teacher preparation. The following sections examine each of these fundamental components.

Table 1

*Identified Fundamental Components of Student Teaching*

| Component | Supporting Literature |
|---|---|
| Instruction focused on 21st century skills of collaboration, community connections, and problem solving | American Association of Colleges of Teacher Education, 2008<br>Anderson & Radencich, 2001<br>Ball & Forzani, 2009<br>Ben-Peretz, 1995<br>Danielson, 2007<br>Darling-Hammond, 2006<br>Denner, Lin, Newsome, Newsome, & Hedeen, 2012<br>Greenberg, Pomerance, & Walsh, 2011<br>Koehler & Mishra, 2008<br>Laine et al., 2011<br>Levine, 2006<br>McTighe & Wiggins, 2005<br>National Council for Accreditation of Teacher Education, 2008<br>US Department of Education, 2010<br>Windschitl & Thompson, 2006 |
| Newly designed clinical experiences connecting theory with practice in authentic settings | Ball & Cohen, 1999<br>Baumgartner, Koerner, & Rust, 2002<br>Dall'Alba & Sandberg, 2006<br>Darling-Hammond, 2006<br>Greenberg et al., 2011<br>Grossman, 2010<br>Hammerness et al., 2002<br>Kamens, 2000<br>Koehler & Mishra, 2008<br>Korthagen, Loughran, & Russell, 2006<br>Ronfeldt & Reininger, 2012<br>Zeichner, 2010 |

Table 1 (continued)

*Identified Fundamental Components of Student Teaching*

| | |
|---|---|
| Opportunities for collaboration, coaching, mentoring, and modeling with other educational professionals | Arthaud et al., 2007<br>ATE, 2000<br>Bacharach et al., 2010<br>Ball, 2000<br>Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009<br>Chelsey & Jordan, 2012<br>Coggshall & Lasagna, 2009<br>Council of Chief State School Officers, 2011<br>Dall'Alba & Sandberg, 2006<br>Danielson, 2007<br>Darling-Hammond, 2006<br>Darling-Hammond et al., 2005<br>Gately & Gately, 2001<br>Goodnough et al., 2009<br>Morehead, Lyman, & Foyle, 2009<br>NCATE, 2008<br>NSDC, 2011<br>Nilssen, 2010<br>Sileo, 2011<br>Sullivan & Glanz, 2000<br>Yendel-Hoppey, 2007<br>Zembal-Saul, Krajcik, & Blumfeld, 2002 |

**Focused instruction.** Educators in today's P-12 classrooms must provide instruction focused on 21st century skills of collaboration, community connections, and problem solving. This focused instruction must align with core standards and use instructional models that lead to students' development of higher order thinking skills. In particular, focused instruction must be a component of clinical experiences for 21st century student teachers. To prepare prospective teachers to deliver focused instruction, teacher preparatory programs must begin with an alignment of standards-based academic content, professional coursework, and

pedagogy in ways that incorporate 21st century skills and prepare teachers to differentiate their instruction to reach all students (Ball & Forzani, 2009). Furthermore, this approach to teacher preparation provides opportunities for prospective teachers to develop the dispositions, professional habits of mind, and self-confidence needed to assist students in developing 21st century knowledge and skills in a range of core academic subject areas.

Specifically, the development of 21st century skills of collaboration, community connections, and problem solving focus on what students can do with knowledge, rather than what units of knowledge they have. Most notably, the literature identifies a need for 21st century skills to excel in core subjects and increase proficiency in information, media, and technology literacy. To teach these skills, pre-service teachers must learn how to teach factual knowledge combined with engaging opportunities to apply knowledge by thinking critically to solve problems, analyze information, make decisions, communicate and collaborate with others (Silva, 2009). In addition, teachers must provide experiences that are relevant to students' lives while also connecting on a global scale. Consequently, the development of 21st century skills is necessary to prepare students for future challenges in higher education and the workforce.

As a result, effective programs must provide continued opportunities for pre-service teachers to create focused instruction that aligns with state and national standards and embeds the mastery of 21st century skills (American Association of Colleges of Teacher Education [AACTE], 2008; US Department of Education, 2010). This moves away from traditional approaches to pre-service teacher preparation, with a strong emphasis on theory, and moves toward an approach rooted in deep understanding and authentic application of focused curricular instruction integrating 21st century skills of collaboration, community

connections, and problem solving across all subject areas (Ben-Peretz, 1995; McTighe & Wiggins, 2005).

**Clinical experiences.** A second fundamental component of teacher preparatory programs is the assurance that prospective teachers receive newly designed clinical experiences connecting theory with practice in authentic settings with strong support from cooperating educational professionals. Programs grounded in clinical experiences provide pre-service teachers with opportunities to connect theory with authentic practice, refine their approach, and blend practitioner knowledge with academic knowledge, all while under the guidance and supervision of qualified cooperating teachers (Ball & Cohen, 1999; Darling-Hammond, 2006; Grossman, 2010). Further, clinical experiences that connect theory with authentic practices allow student teachers to build a repertoire of practice, preparing them to ensure that all students master rigorous content standards, while also attending to students' social-emotional and cognitive needs (Baumgartner et al., 2002; Dall'Alba & Sandberg, 2006; Hammerness et al., 2002; Koehler & Mishra, 2008; Korthagen et al., 2006; Zeichner, 2010).

**Professional learning opportunities.** A final fundamental component of teacher preparatory programs is the opportunity for prospective teachers to engage in collaboration, coaching, mentoring, and modeling with experienced educational professionals. These professional learning opportunities must be collaborative and allow student teachers to carefully observe and interact with cooperating teachers and other educators and provide models of effective classroom practices, teaching strategies, and professional attitudes (Ball, 2000; Nilssen, 2010; Yendel-Hoppey, 2007; Zembal-Saul et al., 2002). In addition to modeling, clinical experience placements with cooperating teachers trained in effective

coaching and mentoring strategies assist prospective teachers in developing the knowledge, skills, and dispositions needed for work in diverse classroom settings (ATE, 2000; Denner et al., 2012; NCATE, 2008). By acting as collaborative coaches, cooperating teachers provide experiences for student teachers to become intentional about their practice and support the learning and achievement of all students. Consequently, such experiences that value support, guidance, and mentoring between prospective teachers and other educational professionals cultivate and strengthen the collaborative relationship needed for work in today's P-12 classrooms (Bacharach et al., 2010; Boyd et al., 2009; Chelsey & Jordan, 2012; Coggshall & Lasagna, 2009; Council of Chief State School Officers, 2011; NSDC, 2011).

**Student teaching standards.** Specific standards for the student teaching experience establish guidelines for the work prospective teachers are expected to perform in P-12 classrooms. This section addresses teaching standards established by The National Council for Accreditation of Teacher Education (NCATE, 2008), the Association of Teacher Educators (2000), the Interstate New Teacher Assessment and Support Consortium (Council of Chief State School Officers, 2011), and the National Staff Development Council (NSDC, 2011). Table 2 shows the relationship of the components of student teaching for this study. Additionally, a discussion of standards for the student teaching experience established by states is presented.

Table 2

*Correlation of National Standards with Study's Identified Fundamental Components of Student Teaching*

| Component | Correlating Standards | | | |
|---|---|---|---|---|
| | NCATE | ATE | INTASC | NSDC |
| Instruction focused on core standards implementing 21st century skills in all subject areas | Standard 1: Candidates develop instruction based on content knowledge, pedagogy, and professional dispositions needed to help all students learn. | Standard 11: Candidates plan instruction that addresses needs of diverse learners. | Standards 4 and 5: Teacher understands core concepts, connects concepts, and engages learners in critical thinking, creativity, and problem solving. | Educators have deep content knowledge and use research-based instructional strategies to support high academic achievement. |
| Clinical experiences connecting theory with practice | Standard 3: Field/clinical experiences designed so teacher candidates develop knowledge, skills, and dispositions needed to help all students learn. | Standard 2: Field experiences are based on knowledge from research, theory, and practice. | No Standard | No Standard |
| Personal learning opportunities (collaboration, coaching, mentoring, modeling) with other educational professionals | Standard 3: Candidates are members of instructional teams involved in collaborative projects under the mentoring and supervision of cooperating teachers. | Standard 7: Teacher candidates are supervised by educators who provide modeling, mentoring, and coaching in a professional learning community. | Standard 10: Teachers collaborate with colleagues and other educational professionals to ensure student growth. | Organizes learning communities to support collaboration. |

***National standards.*** National standards for student teaching are standards pre-service teachers need to teach, learn, and work in collaboration with other educational professionals in communities of practice. NCATE's standards for student teaching are based on a sound conceptual framework through which teacher candidates demonstrate the knowledge, skills, and dispositions needed to help students learn. With NCATE standards, student teachers become part of a professional team, actively involved in decision-making processes aimed at improving instruction and increasing student learning. Guidelines indicate that student teaching placements for teacher candidates should be in school settings that share the conceptual framework of the teacher preparation program. Further, placements should assist teacher candidates in collaboratively planning with other educational professionals for instruction based on knowledge of students' needs and using evidence of academic achievement and social and physical development to maximize learning opportunities. In addition, student teachers should participate in professional learning experiences designed to increase levels of teaching responsibilities and selected teacher education associations' standards for teaching with the identified fundamental components to gain necessary pedagogical knowledge, skills, and dispositions (NCATE, 2008).

Similar to NCATE, the Association of Teacher Educators (ATE, 2000) has established standards for clinical experiences for student teachers. Standards established by ATE for student teaching placements require that field experiences occur in collaborative settings with opportunities for student teachers to teach diverse students in P-12 settings. Both NCATE and ATE note that cooperating teachers should be knowledgeable of the goals of the clinical experience and serve as professional role models, providing frequent feedback, while collaborating with student teachers to promote student learning.

In addition, the Interstate New Teacher Assessment and Support Consortium (INTASC) also has model licensing standards, used by 40 states, that reflect the knowledge, skills, and dispositions needed by beginning teachers to implement educational standards for student learning (Darling-Hammond, 2012). Though not specific to student teaching, INTASC model licensing standards express what teachers should know to support learning goals for all students. Closely aligned with NCATE standards, INTASC standards require teachers to deeply understand core concepts, implement higher order thinking skills in instruction, and work collaboratively with other educators to improve learning for all students.

Additional standards established by the National Staff Development Council (NSDC, 2011) recommend specific professional learning designs to increase teachers' effectiveness and increase student achievement. Modeling, active support, and feedback are features of learning designs recommended for use as beginning teachers learn to teach and improve their practice. According to NSDC standards, all teachers should have a deep understanding of content and use research-based instructional strategies to support high academic achievement. Additionally, peer observations, co-teaching, and expert coaching are among learning designs that facilitate ongoing professional discussions about teaching and learning and create a collaborative culture among educators (NSDC, 2011). Using established national standards provide teacher education programs with guidance in the design of teacher preparatory programs that prepare student teachers to work collaboratively in communities of practice with other educational professionals.

***State standards.*** In addition to the standards established by national education associations, states establish certain guidelines for the student teaching experience. Thirty-

nine states in the United States set a minimum length for student teaching. About half of states require the student teaching experience to last at least 10 weeks. Further, one-third of states require the clinical experience to be full-time, though the definition of full-time varies by state. Some states designate full-time to mean the student teacher is present for the entire school day, while other states propose full-time to mean the student teacher has no other course work obligations during the field experience (Feistritzer, 1999). Although states may vary in defining student teachers, agreement exists in the belief that a strong student teaching experience can significantly improve the vision of instructional excellence (Levine, 2006).

Specifically, focused guidelines for teacher preparation established by state and national standards are critical to ensure pre-service teachers engage in professional learning opportunities to link theory with practice, develop effective instructional and management skills and prepare to face the uncertainties and challenges of the 21st century classroom. By following established standards, teacher preparatory programs can increase pre-service teachers' mastery and fluency in working with students, as they refine their practice and increase their readiness to be successful in all teaching environments. Furthermore, adequately preparing student teachers for the rigors of teaching is crucial throughout the teacher preparatory program, particularly during the student teaching experience (Ball, 2000; Darling-Hammond, 1999; Ferber & Nillas, 2010; Kamens, 2000; Nilssen, 2010; Windschitl & Thompson, 2006; Zeichner, 2010).

***Framework design.*** This leads one to consider what constitutes best practices for teacher preparatory programs to follow in designing frameworks for clinical experiences. Notably, teacher preparation programs must address fundamental components of 21st century student teaching including: (a) instruction focused on 21st century skills of collaboration, community connections, and problem solving; (b) newly designed clinical experiences connecting theory with practice in authentic settings; and (c) opportunities for collaboration, coaching, mentoring, and modeling with other educational professionals. As professional literature notes the importance of collaboration among educators, frameworks should encourage cooperative partnerships throughout clinical experiences (Darling-Hammond & Bransford, 2005; Roth & Tobin, 2004; Suarez-Orozco & Sattin, 2007). Specifically, teacher preparatory programs must provide practical opportunities for teacher candidates to work in collaboration in communities of practice as they integrate content, professional, and pedagogical knowledge into focused instruction implementing 21st century skills (Chesley & Jordan, 2012).

For this reason, changes must occur in the way we prepare prospective teachers for work in 21st century classrooms. In particular, quality frameworks must have the identified fundamental components for student teaching and must prepare new teachers to work in collaboration in communities of practice. A cooperative teaching framework for student teaching is one suggestion for exposing pre-service teachers to collaborative practices prior to their teaching career.

This study presents the use of a cooperative teaching framework for collaborative clinical experiences, particularly the student teaching experience. The following section provides a background on cooperative teaching. First, the foundations of cooperative

teaching in P-12 education are presented. Next, the underlying principles of cooperative teaching models are discussed. Further, studies citing use of cooperative teaching models in P-12 classrooms are presented. Then, considerations for the use of cooperative teaching models are given. Additionally, identified supports and barriers to the use of cooperative teaching are discussed.

**Cooperative Teaching**

To meet the expectations for 21st century teacher preparation, the framework of student teaching experiences should appropriately focus pre-service teacher learning on student achievement and collaboration with others in communities of practice, thus connecting theory and practice throughout the teacher preparation program (Little & Robinson, 1997). The use of a cooperative teaching framework for student teaching experiences encourages collaboration between two educators for all of the instructional responsibilities of students assigned to a classroom and provides ongoing support and mentoring for student teachers as they work in partnership with other educational professionals to promote and support diverse learning needs (Gately & Gately, 2001). Furthermore, the use of cooperative teaching models provided opportunities to work in communities of practice to jointly assess, plan for, instruct, and evaluate heterogeneous groups of students in a regular classroom and increases student teachers' readiness to teach (Bacharach et al., 2010; Bauwens et al., 1989; Coggshall & Lasagna, 2009; Danielson, 2007; Darling-Hammond, 2006).

To consider the use of a cooperative teaching framework for student teaching, one must understand what constitutes this approach to teaching. A review of the literature reveals different descriptions of cooperative teaching. Friend, Reising, and Cook (1993) defined

cooperative teaching as the joint delivery of essential instruction by two or more professionals to a diverse group of students in a single space. Bauwens and Hourcade (1995) provided a definition of cooperative teaching as "a restructuring of teaching procedures in which two or more educators possessing distinct sets of skills work in a co-active and coordinated fashion to jointly teach academically and behaviorally heterogeneous groups of students in integrated educational settings" (p. 46). Further, Salend and Johansen's (1997) description of cooperative teaching noted the collaborative work between general education teachers and special education teachers in general education classrooms to meet the needs of all students. Similarly, Klingner, Vaughn, Hughes, Schumm, and Elbaum (1998) described cooperative teaching as a collaborative effort between general education teachers and special education teacher, involving lessons of at least 30 minutes weekly. In addition, Villa et al.'s (2004) definition expanded collaborative teaching to take account of any adults sharing responsibility for the instruction of students in a classroom and noted that it was a way to use different approaches to teaching to help all students learn. Regardless of the definition, proponents argue that this collaborative relationship provides for an effectual use of precise skills each professional brings to the classroom (Arguelles, Hughes, & Schumm, 2000; Villa et al., 2008).

**Foundations of cooperative teaching in P-12 education.** Collaboration has been the premise of special education for decades, as special education teachers worked with general education teachers and other professionals to deliver appropriate educational services to students with disabilities (Friend & Cook, 2010; Lerner, 1971; Lombardo, 1980; Robinson & Robinson, 1965). According to Thousand and Santamaria (2004), the beginnings of this collaborative relationship trace to the 1960s, when leaders in the special education field

questioned the effectiveness of traditional special education, which involved separating students with disabilities from their peers for instruction. Additionally, general education and special education teachers consulted to increase educational experiences for special education students and provide appropriate instruction in the least restrictive environment (Bauwens et al., 1989; Dunn, 1968; Sileo, 2011; Walther-Thomas, 1997; Warger & Aldinger, 1986).

Advancement occurred in the 1970s, when an increasingly diversified student population required the need for modified instruction, and cooperative teaching was viewed as a tool for meeting students' instructional needs (Villa et al., 2004). In the 1980s, the concept of cooperative teaching emerged as the philosophy of inclusive schooling became more widely accepted and teachers began to examine how special education services could occur in the general education classroom (Bauwens et al., 1989; Garvar & Papania, 1982; Will, 1986). Further, the foundational purpose of cooperative teaching sought to increase instructional options for special education students by bringing the strengths of two educators with different expertise together (Bauwens et al., 1989; Walsh, 1992).

Continued studies of collaboration among teachers in the 1990s encouraged cooperative teaching as a method for effectively educating students with disabilities by providing means for general education and special education teachers to work together to provide a high-quality education for all students within the general education setting (Pugach & Winn, 2011; Rice & Zigmond, 2000; Welch, 2000). The use of cooperative teaching models to provide services to special education students in the general education classroom was defensible as it ensured interaction among students with disabilities and their peers (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). In addition, cooperative teaching methods allowed collaborating teachers to address individualized education program (IEP)

goals and objectives of special education students while also attending to the instructional needs of other students in the general education classroom (Friend & Cook, 2010).

An increased focus was placed on collaboration designed to meet the needs of all students with the requirements of the reauthorized Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 (Pub. L. No. 108-446) and the NCLB Act of 2001 (Pub. L. No. 107-110). First authorized in 1997, IDEIA required all students with disabilities to participate in the general education curriculum and be assessed in the least restrictive environment. This required an increased need for cooperation among general education teachers and special education teachers to provide the needed services and support for students with disabilities (Nevin et al., 2009). NCLB required that all students be given access to the general education curriculum; called for instruction by highly certified teachers; and held schools and teachers accountable for academic progress of all students, including those with disabilities. Consequently, cooperative teaching is one means of providing specialized services for students, with or without disabilities, in a general education classroom to meet the standards set forth by IDEIA and NCLB (Friend et al., 2010).

As P-12 education encourages the inclusion of students with disabilities in the general education classroom, collaborative planning and teaching is essential to prepare future teachers to meet the needs of heterogeneous student populations (Darling-Hammond, 1996). The use of cooperative teaching methods during the student teaching experience is a practical way to prepare pre-service teachers for 21$^{st}$ century classroom instruction designed to satisfy current legislative demands to meet the learning needs of all children, regardless of ability or perceived disability.

**Principles of cooperative teaching models.** Participation in cooperative teaching requires the collaboration, consultation, and cooperation of two or more teachers working to support student learning (Brandt, 1987; Friend & Cook, 2007; Villa et al., 2004). Although traditional uses of cooperative teaching involved the general education teacher and special education teacher working cooperatively to provide instruction and support to a heterogeneous group of students in a single classroom, the design of cooperative teaching models allows for use between any educational professionals collaborating to provide instruction to a group of students (Friend et al., 1993). Bacharach et al. (2010) note one of the first references to the use of cooperative teaching during the student teaching experience as they define cooperative teaching in student teaching as a cooperating teacher and a teacher candidate who share the planning, organization, delivery, and assessment of instruction for a group of students.

***Team teaching.*** A review of the literature reveals that all cooperative teaching arrangements described are team teaching arrangements. Team teaching, which first gained popularity in the 1950s, was part of an effort to reorganize secondary school structure to allow teams of teachers to instruct large groups of students. This method involves the shared responsibility for the instruction of all students in the classroom (Bauwens et al., 1989; Friend et al., 1993; Trump, 1966). Team teaching continued to grow in popularity during the 1960s and 1970s, occurring in both elementary and secondary schools across subject areas (Friend et al., 1993; Geen, 1985). In the 1990s, team teaching resurged among general education teachers, particularly in middle and high schools, as educators searched for ways to differentiate instruction and share responsibilities for instruction while building upon the expertise of other educational professionals (Friend et al., 1993).

Though many different approaches classify as team teaching, a commonality in all is that instruction is by co-teachers in the same classroom at the same time (Bauwens et al., 1989; Easterby-Smith & Olve, 1984; Friend & Cook, 1992; Friend et al., 1993). Both teachers are responsible for classroom management and lesson pacing in this approach. Team teaching may involve whole group or small group instruction (Bauwens et al., 1989; Warwick, 1971).

***Models of cooperative teaching.*** The models of cooperative teaching vary in name and definition. Cook and Friend (1995) describe five basic models of cooperative teaching, including (a) one teach-one assist, (b) station teaching, (c) parallel teaching, (d) alternative teaching, and (e) team teaching. Villa et al. (2004) identified four approaches to cooperative teaching as supportive teaching, parallel teaching, complementary teaching, and team teaching. Vaughn, Schumm, and Arguelles (1997) noted parallel teaching, station teaching, and alternative teaching as acceptable cooperative teaching models. Walther-Thomas, Korinek, McLaughlin, and Williams (2000) included parallel teaching, station teaching, and alternative teaching in their models of cooperative teaching; however, they replaced the one teach-one assist model with an alternate called interactive teaching. Sands, Kozleski, and French (2000) have a similar description of co-teaching models: however, they break team teaching into four parts: (a) tag team, (b) speak and add, (c) speak and chart, and (d) duet. Tag team allows one to teach a section of instruction and the other to follow. In speak and add, one teaches while the other adds information as needed. Speak and chart involves one teaching while one records information on chart paper, easel, overhead, etc. In duet, teachers work in unison, completing one another's ideas and sentences.

A review of these predominant models of cooperative teaching reveals that there are essentially three overarching models. Following a review of the literature on cooperative teaching, I created and named three models of cooperative teaching. This study will examine the three models of cooperative teaching: (a) supportive cooperative teaching, (b) parallel cooperative teaching, and (c) complementary cooperative teaching. Table 3 shows the three models of cooperative teaching selected for this research study and their similarities to models of cooperative teaching found in research literature. Chosen models fit under the umbrella of team teaching, as all rely on the collaboration of co-teachers to share responsibilities for planning, instruction, classroom management, and assessment of heterogeneous groups of students in a single classroom (Bauwens et al., 1989; Cook & Friend, 1995; Sands et al., 2000; Villa et al., 2004). In addition, chosen models represent a combination of cooperative teaching models identified in research and develop the collaborative skills needed of 21st century educators.

Table 3

*Similarities of Selected Models of Cooperative Teaching to Models Identified in Literature*

| Cooperative Teaching Model | Similarities |
|---|---|
| Supportive Cooperative Teaching | One teach – one assist: One teacher assumes the lead in classroom instruction while other(s) provide support to students in the classroom (Cook & Friend, 1995).<br><br>Team teaching: Both teachers are actively involved in delivery and facilitation of instruction (Cook & Friend, 1995; Villa et al., 2004).<br><br>Interactive teaching: Both teachers share planning, teaching, and other classroom responsibilities equally (Walther-Thomas et al., 2000). |
| Parallel Cooperative Teaching | Station teaching: Both teachers are actively involved in instruction as students rotate to stations where instruction is provided (Cook & Friend, 1995).<br><br>Parallel teaching: Class is divided into two separate groups and each teacher presents the lesson separately (Cook & Friend, 1995; Vaughn et al., 1997; Villa et al., 2004).<br><br>Team teaching: Both teachers are actively involved in delivery and facilitation of instruction (Cook & Friend, 1995; Villa et al., 2004). |
| Complementary Cooperative Teaching | Alternative teaching: One teacher provides specialized instruction to a small group of students in an alternate location (Cook & Friend, 1995; Vaughn et al., 1997; Walther-Thomas et al., 2000).<br><br>Team teaching: Both teachers are actively involved in delivery and facilitation of instruction (Cook & Friend, 1995; Villa et al., 2004). |

***Supportive cooperative teaching.*** The first model of cooperative teaching in this study is supportive cooperative teaching. In supportive cooperative teaching, both teachers are present in the classroom, with teacher A assuming the lead in delivering instruction (Villa et al., 2004). Teacher B observes and drifts, assisting students as needed. Using this cooperative teaching method, teachers are able to assist students in a timely manner and protect students' time-on-task (Bauwens et al., 1989). Teacher B can easily spot and redirect students to the academic work at hand, while Teacher B is engaged in providing help to students as needed. However, he/she can still observe teacher A model good teaching practices throughout the lesson (Villa et al., 2004). Villa et al. (2008) wrote that teachers who are new to cooperative teaching often use the supportive cooperative teaching model. This approach is effective when one teacher has a greater expertise than the other. Supportive cooperative teaching is beneficial to use during lessons that require practice with a new skill that needs close monitoring (Villa et al., 2004). This approach also serves as a form of coaching between cooperative teachers (Bauwens et al., 1989).

While use of this supportive cooperative teaching can often result in students viewing one adult as the teacher and the other as an assistant, cooperating teachers using supportive cooperative teaching must switch roles frequently so that students will not perceive one teacher as having more control (Villa et al., 2004). Consequently, this model can also cause distractions for students by the assisting teacher during large group instruction (Villa et al., 2008).

***Parallel cooperative teaching.*** The second model of cooperative teaching in this study is parallel cooperative teaching. In parallel cooperative teaching, teachers plan instruction together, then divide the class and deliver instruction to small groups (Bauwens et

al., 1989). This method allows for greater facilitation of student learning, as teachers simultaneously cover material with smaller groups of students. Students may rotate to various stations in the classroom for instruction or teachers may divide the class in half for instructional delivery (Cook & Friend, 1995). As teachers have preplanned the lesson, teaching is better and each teacher has the opportunity to work separately to provide instruction on the same content. Teachers may cover the same material with smaller groups of students or each teacher may assume responsibility for planning and instructing a portion of the material (Vaughn et al., 1997; Villa et al., 2004). Parallel cooperative teaching gives both teachers an active role in instruction and fosters greater student participation due to the decreased student-teacher ratio (Cook & Friend, 1995). In addition, the use of parallel cooperative teaching also allows for the separation of students as needed due to academic or behavioral concerns.

Specific considerations must occur for the use of parallel cooperative teaching. First, both teachers must feel confident in the content area when using parallel teaching (Cook & Friend, 1995). Further, the physical area of the classroom must allow student groups to work comfortably without disruptions due to noise level (Villa et al., 2004). Additionally, teachers must pace instruction to ensure that groups finish at relatively the same time (Vaughn et al., 1997). As instructional responsibilities of both teachers are clear in parallel cooperative teaching, teachers are able to cover more material in a shorter period of time (Villa et al., 2004). Students are in smaller groups, allowing teachers to better manage behaviors and provide the opportunity for the separation of students as needed (Cook & Friend, 1995).

In addition, parallel cooperative teaching requires a great amount of preplanning and requires that all materials be prepared and available in advance (Villa et al., 2004). Noise is

often a concern when using this method; therefore, instruction must reflect appropriate noise levels. Students must also be able to work independently, as the use of parallel cooperative teaching may require some students to work on instructional activities without teacher guidance (Walther-Thomas et al., 2000). Considerations must ensure homogeneous grouping of lower performing students for instruction does not occur (Marzano, Pickering, & Pollack, 2001).

***Complementary cooperative teaching.*** The third model of cooperative teaching in this study is complementary cooperative teaching. Complementary cooperative teaching allows teachers to share the responsibility of teaching the whole class as one teacher works with a small group of students to pre-teach, re-teach, or supplement regular instruction (Villa et al., 2004). This model is especially useful for students who need specialized attention. While teacher A maintains responsibility for instructing the larger group, teacher B works with the smaller group (Cook & Friend, 1995). The smaller group can work inside or outside of the regular classroom. Specifically, instruction may address concepts missed due to students' absences, for assessment purposes, or to provide enrichment or extended challenge opportunities (Walther-Thomas et al., 2000).

According to Vaughn et al. (1997) working with a smaller group to clarify, simplify, or reinforce content allows teachers to attend more to individualized instruction. Teachers are better able to meet the needs of students using complementary cooperative teaching. Villa et al. (2004) notes that consideration of group composition must occur and students working in groups should alternate frequently when teachers are using complementary cooperative teaching to avoid labels (i.e., smart group). Adequate space must be available in the regular classroom for both groups to meet. In addition, close monitoring of noise levels must occur

to avoid distractions between groups (Cook & Friend, 1995). Consequently, teachers should shift responsibilities in working with large groups and smaller groups so that students do not begin to view one teacher as being in charge and the other teacher as being an assistant (Walther-Thomas et al., 2000).

**General literature on cooperative teaching.** A review of the literature reveals a significant number of research studies on the beliefs and assumptions regarding cooperative teaching. Authors have explored topics such as benefits and perceptions of cooperative teaching (Austin, 2001; Salend, Gordon, & Lopez-Vona, 2002); planning (Magiera et al., 2006; Murawski & Dieker, 2004, Walther-Thomas, Bryant, & Land, 1996); implementation of cooperative teaching (Rea & Connell, 2005); role of collaboration (Adams & Cessna, 1991; Murray, 2004); and roles of co-teachers (Piechura-Couture, Tichenor, Touchton, Macissac, & Heins, 2006; Washburn-Moses, 2005; Weiss & Lloyd, 2003). The following sections examine each of these areas.

***Benefits and perceptions of cooperative teaching.*** Research has shown the benefits of using cooperative teaching. For example, Austin (2001) interviewed 139 elementary, middle, and high school teachers from districts in the northeast. Each school had used a co-teaching model for at least one semester. Austin investigated current experiences with co-teaching, including teacher preparation for co-teaching assignments and school-based supports for facilitation of co-teaching. Results of the study showed that regular education teachers' perception of co-teaching was that use of this method increased their skills in classroom management and adaptation of curriculum for all students, while special education teachers noted a benefit of an increase in knowledge of curriculum content. Both regular and special education teachers noted the use of small groups for instruction to be beneficial and

found co-teaching to be a positive experience. Although both regular and special education teachers indicated the sharing of responsibilities during individual interviews, analysis of survey data showed that the regular education teacher held more responsibility for planning and delivery of instruction.

In addition, Salend et al. (2002) evaluated procedures and strategies for assessing the experiences and perceptions of co-teaching teams. The authors identified co-teaching practices viewed as beneficial and indicated a need for other stakeholders, such as students, family members, and community members, to provide input on the success of the collaborative model. Suggestions for assessing co-teaching included the use of a best practices checklist, evaluating areas such as instructional strategies, administrative support, planning time, communication, and parity, as well as teacher observations and reflective journals. Specifically, the authors suggested that continuous monitoring of co-teaching would allow for immediate revisions to the model as needed.

***Planning.*** Collaborative planning is noted throughout the literature as a critical component in the successful implementation of cooperative teaching. Walther-Thomas et al. (1996) identified the need for comprehensive planning to occur not only at the classroom level, but also at the building and district level. At the classroom level, planning is essential to ensure parity among co-teachers and provide for appropriate differentiated instruction. Administrative leadership must exist at the building level to allow for adequate planning time between co-teachers, suitable classroom sizes, manageable schedules, and effective problem solving techniques. Additionally, at the district level, planning must be in place to provide necessary professional development to support co-teaching relationships. Working cohesively, all levels can provide unified support for the success of co-teaching.

An action research study at an elementary school by Magiera et al. (2006) identified planning and preparing for co-teaching as necessary elements for success in a collaborative classroom. Participants indicated strong communication between co-teachers, respect and trust in co-teaching relationships, and flexibility in instructional practices and organization existed in effective co-teaching relationships. Further, Murawski and Dieker's (2004) opinion piece noted that effective co-teaching required a clear, well-developed plan prior to implementation, with appropriate training provided for teachers entering a co-teaching relationship. The authors identified a need for ongoing evaluation of successful co-teaching strategies prior to, during, and following implementation, with strong administrator support necessary.

***Implementation of cooperative teaching.*** Research indicates that strong supports must be in place to implement cooperative teaching. Rea and Connell's (2005) opinion piece noted the need for administrators considering the use of a co-teaching model to develop a well-organized plan for delivery of instruction to all students prior to implementation. Evaluation of the responsibilities and roles of all educational professionals involved in co-teaching must occur, with specific attention placed on educational beliefs of co-teachers, supervision and evaluation of co-teaching practices, and structure and management of classroom instruction. Additionally, attention to these fine details prior to implementation help to ensure a smoother transition to the use of cooperative teaching.

***Role of collaboration.*** Research has shown the importance of collaboration in the use of cooperative teaching. For example, Adams and Cessna (1991) identified a need for common understanding in the roles and responsibilities of educators involved in collaborative teaching relationships. Also identified as critical to success were appropriate

training and planning time for effective collaboration. The authors noted that teachers needed this time for collaboration to ensure the use of appropriate instructional strategies to address the diverse needs of students.

Additionally, Murray's (2004) study of 40 general education high school teachers focused on the skills needed to work in collaborative roles. Most of the participants had experience working with special education teachers, but had limited training and understanding of how to work in collaboration with others. Components identified as necessary for success were time for collaboration and planning as well as adequate resources for instruction.

***Roles of co-teachers.*** Research has shown the importance of establishing roles and responsibilities for each cooperating teacher. In a study of three school districts implementing a co-teaching model, Piechura-Couture et al. (2006) found three steps essential to creating successful cooperative teaching relationships. Matching teachers with similar educational philosophies and teaching styles, providing co-teaching teams with research-based instructional strategies, and reducing barriers to implementation were all important to successful co-teaching partnerships. Administrators solicited teacher volunteers for co-teaching teams. In addition, teachers completed inventories to assess teaching styles, participated in professional development sessions on a variety of co-teaching methods, and had time for planning for instruction. To identify and reduce barriers to implementation, administrators participated in professional development sessions that noted parental support, adequate resources, appropriate professional development, and teacher dispositions as areas for concern when using co-teaching.

Further, Washburn-Moses (2005) surveyed 378 special education teachers to gauge their roles and responsibilities. Of the respondents who participated in co-teaching, 39% were involved in co-teaching on a daily basis. Roles and responsibilities included modifying and adapting instructional materials, making accommodations for instruction, and managing behavior. Additionally, Weiss and Lloyd's (2003) qualitative research study of middle and high school special education teachers found their responsibilities to be providing instructional support to students, delivering instruction to small groups of students within the classroom and in other areas, and engaging in team teaching with regular education teachers. Participants indicated a need for continued professional development to further define the roles and expectations of each teacher involved in a co-teaching relationship, with training on specific models of co-teaching.

Specifically, successful cooperative teaching relationships described in research studies note the active involvement of both teachers with a true sharing of responsibilities (Johnsson & Boud, 2010; McDuffie, Mastropieri, & Scruggs, 2009; Murray, 2004; Piechura-Couture et al., 2006; Trent et al., 2003). Leat, Lofthouse, and Taverner (2006) noted that supportive collaboration helped to increase teachers' confidence, while Bakkenes, Vermunt, and Wubbels (2010) stated work in a collaborative environment encouraged experimentation with instructional methods and the use of suggested ideas from other professionals. As many of the research studies focused on the co-teaching relationships between licensed teachers, I became more interested in the similarities of the relationship between student teachers and cooperating teachers, particularly those engaged in a co-teaching partnership.

**Considerations for selection of cooperative teaching models.** No cooperative teaching model heralds as being superior; however, certain factors are important for

consideration when selecting cooperative teaching models for use. The literature identified several elements necessary for the successful use of cooperative teaching models. Friend et al. (1993) noted several factors for consideration when selecting an appropriate cooperative teaching model: (a) characteristics and needs of students, (b) characteristics and needs of cooperating teachers, (c) curriculum content, and (d) practical concerns.

***Characteristics and needs of students.*** The characteristics and needs of students is the first consideration when selecting a cooperative teaching model. Failure to consider the student population when planning for cooperative teaching can result in an ineffective or disruptive lesson (Bauwens & Hourcade, 1991). Co-teaching's origins were intended to meet the needs of students with disabilities in the regular classroom where general and special educators shared instructional responsibilities (Arguelles et al., 2000; Villa et al., 2008). However, co-teaching's current use is in classrooms regardless of the presence or absence of students with disabilities, as students at all academic levels can benefit from increased teacher attention and differentiated assignments made possible by co-teaching models (Danielson, 2007). Specifically, the use of co-teaching allows for more intense and individualized instruction for all students and provides continuity of instruction.

***Characteristics and needs of cooperating teachers.*** In considering the needs of co-teachers, Walther-Thomas et al. (1996) noted a supportive atmosphere for cooperative teaching could only occur with comprehensive planning. This planning is an essential process for teachers involved in cooperative teaching relationships, as it is essential to sustaining appropriate instruction, establishing parity in roles and responsibilities, and ensuring teacher efficacy by utilizing the full range of cooperating teachers' skills and proficiencies. This comprehensive planning is not limited to the classroom level; rather, it

must also occur at the district level, as allocation of sufficient resources is necessary to provide support to cooperative teaching. These supports should include appropriate professional development designed to promote appropriate cooperative teaching practices (Weiss & Lloyd, 2003). Additionally, at the building level, administrators must ensure common planning time for cooperative teachers, create suitable teaching schedules, and promote strong communication between co-teachers (Walther-Thomas et al., 1996).

Further, Scruggs, Mastropieri, and McDuffie (2007) found in a meta-synthesis of qualitative research on co-teaching that administrative support was a primary need of teachers in ensuring that cooperative teaching relationships were successful. In essence, the administrator's philosophy on cooperative teaching often influences the behaviors of the teachers, creates the cultural norms, and directly links to the success of co-teaching relationships.

In addition to comprehensive planning, consideration of co-teachers' characteristics must also occur, as certain cooperative teaching models are more conducive to specific instructional styles. Piechura-Couture et al. (2006) noted matching teachers who share similar educational philosophies and teaching styles was beneficial in creating successful cooperative teaching teams. When considering pairings for efficacy, cooperative teachers that work easily together would benefit from using a more shared approach to instruction, while co-teachers that have a greater variance in teaching styles may prefer a model that allows for more independence in instruction. As a result, cooperative teaching in different classrooms can have a different appearance and structure given the needs of the co-teachers involved (Weiss & Lloyd, 2003).

Willingness to participate in cooperative teaching is a critical component in implementation. Murawski and Dieker (2004) noted teachers who volunteered for co-teaching were more likely to find compatible team members and were more comfortable communicating with one another. In addition, discussions on preference of instructional styles, strengths and needs of each co-teacher, and ways to reconcile differences were easier with teachers who had volunteered to co-teach.

***Curriculum content.*** While consideration of the characteristics and needs of cooperating teachers are important to successful co-teaching relationships, curriculum content and appropriate instructional strategies are additional concerns, as cooperating teachers must consider which models most effectively complement curricular needs. Co-teachers may use one cooperative teaching model for highly structured curriculum, while another model may serve better for less structured curriculum. For example, cooperating teachers in a middle school science class may use a team teaching model to introduce a new area of study while using a station teaching model to review content and prepare for assessments. In elementary classrooms, co-teaching can provide flexible grouping in reading or math or individualized instruction in any content area (Friend, 2008). As diverse groups of students comprise each classroom, adapting the curriculum and selecting appropriate co-teaching models for instructional delivery are crucial to ensure that all students master curriculum content standards.

***Practical concerns.*** In addition to selecting appropriate co-teaching models to address specific curriculum content concerns, practical considerations must be given to the setting in which cooperative teaching occurs. Physical space and noise level are two common concerns with cooperative teaching models, and considerations for both must occur when

selecting an approach for instruction. Station teaching requires ample classroom space, as both teachers are actively involved in instruction as students rotate to various stations around the classroom (Cook & Friend, 1995). Parallel teaching can require a large physical space if performed in the same classroom, as it involves the division of students into two separate groups, with each teacher presenting the material separately (Cook & Friend, 1995; Vaughn et al., 1997; Villa et al., 2004). Additionally, alternative teaching requires two areas for instruction, as specialized instruction is provided by one teacher to a small group of students in a separate location (Cook & Friend, 1995; Vaughn et al., 1997; Walther-Thomas et al., 2000).

Noise level is often a concern when using station teaching and parallel teaching. Co-teachers must adapt their voice levels appropriately when simultaneous instruction is occurring in the same classroom and students usually adjust quickly. Co-teachers must experiment with different ways to manage the placement of students when using station teaching and parallel teaching and reflect upon what is most successful for instruction (Wilson & Blednick, 2011). Addressing these practical concerns can assist in ensuring that all students benefit from instruction when using cooperative teaching.

**Supports and barriers of cooperative teaching.** In an ideal model, the successful use of cooperative teaching relies heavily on the active involvement of both professionals, committed to true sharing of duties as an essential component (McDuffie et al., 2009). The sharing of practical responsibilities for the students and classroom joins cooperating teachers' tacit knowledge and offers unique cooperative learning experiences for students (Rytivaara & Kershner, 2012). In addition, the sharing of basic teaching philosophies, including ideas about classroom management and routines, is important and can make compromise between

cooperating teachers easier (Cook & Friend, 1995). Supports must be in place to cultivate this collaborative relationship and address any issues that may arise (Friend et al., 2010; Gurgur & Uzuner, 2011).

A central factor in the strength of the cooperative teaching relationship is clarity of expectations and a sense of equality in responsibilities (McKenzie, 2009). Aruguelles et al. (2000) note seven supports required for effective co-teaching: (1) flexibility, (2) strong communication skills, (3) clearly defined roles and responsibilities, (4) compatibility (5) risk-taking, (6) common planning time, and (7) administrative support. Consequently, the absence of these is cited by research literature as barriers to meaningful collaboration (Arguelles et al., 2000; DiPardo, 1997; Friend et al., 2010; Gurgur & Uzuner, 2011; Knop, LeMaster, Norris, Raudensky, & Tannehill, 1997; Leonard & Lenoard, 1999). In addition, appropriate professional development designed to promote appropriate cooperative teaching practices and collaboration is necessary to support co-teaching relationships (Weiss & Lloyd, 2003). Table 4 shows the relationship of identified supports and barriers to the use of cooperative teaching with current literature. The following sections examine each of the supports noted for effective co-teaching relationships.

Table 4

*Identified Supports and Barriers to the Use of Cooperative Teaching*

| Support/Barrier | Supporting Literature |
|---|---|
| Flexibility | Friend & Cook, 2007<br>Walther-Thomas et al., 2000 |
| Strong communication skills | Murawski & Dieker, 2004<br>Trent et al., 2003 |
| Clearly defined roles and responsibilities | Bacharach et al., 2010<br>Boyd et al., 2009<br>Brownell & Walther-Thomas, 2002<br>Friend et al., 2010<br>Gately & Gately, 2001<br>Knop et al., 1997<br>Potts, Howard, & McDuffie-Landrum, 2011 |
| Compatibility | Arguelles et al., 2000<br>Cook & Friend, 1995<br>DiPardo, 1997<br>Friend, 2007<br>Friend, 2008<br>McKenzie, 2009 |
| Risk-taking | Arguelles et al., 2000<br>Danielson, 2007<br>Darling-Hammond et al., 2005<br>Friend & Cook, 2007<br>Stanulis & Russell, 1999 |
| Common planning time | Arguelles et al., 2000<br>Ashton, 2003<br>Dieker & Murawski, 2003<br>Friend, 2008<br>Friend et al., 2010<br>Knop et al., 1997<br>Weiss & Brigham, 2000 |

Table 4 (continued)

*Identified Supports and Barriers to the Use of Cooperative Teaching*

| | |
|---|---|
| Administrative support | Arguelles et al., 2000<br>Friend, 2008<br>Friend et al., 2010<br>Laine et al., 2011<br>Scruggs et al., 2007<br>Walther-Thomas, 1997<br>Weiss & Brigham, 2000 |
| Professional development | Gamble et al., n.d.<br>Gately & Gately, 2001<br>Gurgur & Uzuner, 2011<br>Leonard, 2002<br>Leonard & Leonard, 1999<br>Leonard & Leonard, 2003<br>Rietman, 2012<br>St. Cloud State University College of Education, 2011 |

***Flexibility.*** Successful cooperative teaching partnerships require flexibility, as co-teachers must learn to collaborate and compromise when making instructional decisions. In order to meet the needs of all students, co-teachers must be adaptable and receptive to learning from one another, as each has specific areas of expertise and abilities (Friend & Cook, 2007). Participants in effective co-teaching relationships must also remain open minded and flexible as they share instructional resources and physical space. Though cooperation and flexibility is necessary, each co-teacher's contribution and accountability in collaborative activities is equal (Walther-Thomas et al., 2000).

***Strong communication.*** Through this flexible collaboration, administrators must provide support as co-teachers become acquainted with one another's skill level and educational philosophy. Co-teachers must possess competent professional skills, openness

with one another, and a strong interest in working together for this teaching relationship to be successful. Administrators can assist co-teachers in establishing a strong connection by guiding conversations in expectations for classroom management, instructional methods, differentiation, and assessment. In addition, co-teachers must be willing to share perceived strengths and weaknesses of self as well as any pet peeves that may hinder a strong co-teaching relationship.

To provide for an effective co-teaching relationship, student teachers and cooperating teachers must have discussions regarding teaching philosophies, classroom routines, and expectations for students (Trent et al., 2003). When planning for instruction, cooperative teaching models must be examined and teachers' instructional styles must be considered. As a result, successful co-teaching can occur when co-teachers thoughtfully consider how their teaching styles and cooperative teaching models can incorporate into lessons that will maximize student learning (Murawski & Dieker, 2004).

***Clearly defined roles and responsibilities.*** Strong communication encourages co-teachers as they define roles and responsibilities each must assume in the classroom. Support for one another must be evident in lessons, as co-teachers should strive to demonstrate parity in instructional responsibilities (Potts et al., 2011). In addition, responsibilities for delivering instruction should vary to meet the needs of all learners and to avoid stigmatization of any one group of students. Further, responsibilities for planning, assessment, and classroom management must be established to ensure fluidity in classroom practices (Gately & Gately, 2001).

To ensure roles and responsibilities for each teacher are clearly defined, collaboration must occur. Through collaborative planning and sharing of resources and materials,

cooperating teachers can meet a common educational goal (Bacharach et al., 2010; Boyd et al., 2009). By nurturing this collaborative relationship, teachers can plan, present lessons, and assess students together, rather than having all the responsibilities delegated to one person (Brownell & Walther-Thomas, 2002).

***Compatibility.*** Collaboration is more successful when co-teachers with similar educational philosophies and instructional styles join in co-teaching (Friend, 2008). Appropriate matches of teachers create successful co-teaching teams. This compatibility goes beyond a willingness to participate in cooperative teaching. Teachers engaged in cooperative teaching should share an enthusiasm for collaboration and come to a mutual agreement on classroom management and instructional delivery, including each teacher's roles and responsibilities (Arguelles et al., 2000; Cook & Friend, 1995; McKenzie, 2009). In addition, teachers should volunteer to participate in co-teaching, as reluctant participants can result in ineffective partnerships (Friend, 2007). When teachers working in co-taught classrooms are committed to working collaboratively to nurture their professional relationship, the result is improved outcomes for students and strong teaching partnerships (Friend, 2008).

***Risk-taking.*** With two compatibly matched teachers in a co-taught classroom, instruction looks very different when compared to classrooms with a single teacher. The use of cooperative teaching models allows teachers to take risks and experiment with instructional models to increase student engagement and performance levels (Friend & Cook, 2007). A feeling of trust must be present between co-teachers in order for risk-taking to occur. The student teaching experience provides an opportune time for risk-taking, as student teachers are exploring instructional approaches to select those focused on academic growth for all students while also strengthening their understanding of the unstated details of

teaching (Danielson, 2007; Darling-Hammond et al., 2005). The presence or absence of trust between the cooperating teacher and student teacher can greatly affect the student teacher's willingness to take risks and affect the student teacher's engagement in instructional tasks (Stanulis & Russell, 1999).

***Common planning time.*** With effective implementation, cooperative teaching can result in a shared responsibility and understanding of how to provide focused standards-based instruction to all students. As administrators support teachers' purposeful planning for instruction, co-teachers should be allotted a minimum of one scheduling and planning period weekly. Through this common planning time, professionals involved in cooperative teaching partnerships can work to ensure that both teachers have teaching responsibilities, are prepared for all instructional activities and continuously improve shared instruction over time (Dieker & Murawski, 2003; Friend, 2008). Though the absence of common planning time hinders many cooperative teaching relationships, the scheduling of common planning time is less of a concern for cooperating teachers and student teachers involved in collaborative partnerships, as they usually plan jointly for instruction (Ashton, 2003).

***Administrative support.*** In addition to supporting common planning time, strong administrative support is essential in fostering all areas of effective co-teaching relationships (Laine et al., 2011). Many teachers view administrators as the individuals who can establish the conditions essential for cooperative teaching to have a positive influence on student learning (Friend, 2008; Scruggs et al., 2007; Walther-Thomas, 1997). In preparing to introduce cooperating teaching, administrators must gauge teacher interest in cooperative teaching and provide appropriate information regarding cooperative teaching methods. Co-teaching should be implemented slowly and administrators must assess the level of

collaboration already present within the school. Furthermore, administrators should present co-teaching as a proactive manner in which to address mandates on providing the least restrictive environment for all students (Friend, 2008).

Support for teachers who volunteer to participate in co-teaching should include appropriate planning time, assistance with scheduling, and appropriate professional development. Additionally, when considering student teaching placements, administrators should be mindful of matching student teachers with cooperating teachers trained in cooperative teaching methods. As administrators want co-teaching relationships to be successful, teachers involved in these partnerships can encourage administrative support by communicating to share their instructional successes, relay students' academic achievements, and constructively suggest alternative approaches to improve these professional partnerships (Friend, 2008).

While administrative support and common planning time are supports to a successful cooperative teaching relationship, Weiss and Brigham (2000) identified the absence of both as barriers to productive cooperative teaching. Middle school and high school science teachers from the same case studies indicated emphasis on high-stakes testing, lack of planning time, departure from assigned roles and responsibilities, differences in teaching styles, and lack of administrative support hindered the use of co-teaching (Weiss & Brigham, 2000).

***Professional development.*** As administrators support cooperative teaching relationships, appropriate professional development should be provided as needed. Unfamiliarity with cooperative teaching methods may cause uncertainty in both teachers. Professional development sessions on cooperative teaching methods can serve to alleviate

any concerns teachers may have. Often, co-teaching relationships exist between a general education teacher and a special education teacher. General education teachers may lack skills in selecting appropriate accommodations for special education students, while special education teachers may have less confidence in specific content areas. Professional development sessions can assist co-teachers in identifying how collaboration can increase competencies in delivering instruction to all students and making appropriate modifications and accommodations for students who require them (Gately & Gately, 2001).

Research indicates that many educators find it difficult to participate in co-teaching due to lack of professional development or pre-service training. For example, Leonard's (2002) study of 500 teachers found no appropriate professional development was provided to support cooperative teaching, although collaboration was expected. Further study by Leonard and Leonard (2003) of 238 elementary, middle, and high school teachers in 45 schools in eight districts found professional development sessions focused on collaboration as effective in meeting the needs of cooperating teachers.

Some teacher preparation programs, such as those found at Appalachian State University, St. Cloud State University, and the University of Southern Indiana provide readiness training for co-teaching and other collaborative approaches (Gamble et al., n.d.; Rietman, 2012; St. Cloud State University College of Education, 2011). These universities provide support for cooperative teachers through professional development sessions that describe cooperative teaching models and the benefits of using models with student teachers. Specifically, sessions occur prior to the student teaching experience, establishing the expectation for the use of cooperative teaching.

The acceptance and use of cooperative teaching has generally occurred more frequently at the elementary level (Jackson, Ryndak, & Billingsley 2000). Research has shown more challenges to the use of cooperative teaching at the high school level. For example, Mastropieri and Scruggs (2009) indicate the greater weight placed on content area comprehension, faster pace of content delivery, fewer positive standpoints of teachers, and inconsistency in use of co-teaching strategies as obstacles for successful cooperative teaching experiences. Additionally, Ellett (1993) proposed that high school teachers might be less inclined to utilize CTM, due to large class sizes and the need for a faster rate of instruction. In addition, Keefe, Moore, and Duff (2004) found through interviews that in many high schools a lack of parity existed between general education teachers and special education teachers, making co-teaching a challenge. General education teachers were more inclined to view themselves as content area experts and treat special education teachers as instructional assistants rather than teachers.

**Needs of 21st Century Student Teaching and Cooperative Teaching Models**

Teacher preparation programs of today must ready prospective teachers to embed 21st century knowledge and skills through focused collaborative instruction in all curricular subjects in P-12 classrooms. To ensure that programs adequately prepare pre-service teachers, fundamental changes in the approach to learning how to teach must occur. This study offers the use of cooperative teaching as a suggested framework for student teaching. Under this framework, clinical experience departs significantly from the traditional "one teacher, one classroom" paradigm to a more collaborative approach to focused instruction based on core standards (Kamens, 2007). With cooperative teaching, mutual partnerships

with cooperating teachers assist student teachers in meeting instructional demands of the 21st century classroom (Chesley & Jordan, 2012).

Recognizing the need to transform teacher preparation, many institutions of higher education have already initiated a reform in the framework of teacher education programs in order to prepare pre-service teachers for collaborative classroom instruction. (Austin, 2001; Burke & Sutherland, 2004; Chesley & Jordan, 2012; Gamble et al., n.d; Rietman, 2012; Roth & Tobin, 2004; Weiss & Lloyd, 2003). For this reform to be effective, fundamental components of student teaching must be included in the adopted frameworks. This study identifies three fundamental components for 21st century student teaching: (a) instruction focused on 21st century skills of collaboration, community connections, and problem solving; (b) newly designed clinical experiences connecting theory with practice in authentic settings; and (c) opportunities for collaboration, coaching, mentoring, and modeling with other educational professionals. Considering the three identified fundamental components, cooperative teaching models provide a practical framework for 21st century student teaching, as the use of cooperative teaching models addresses all three. Using cooperative teaching models, pre-service teachers work collaboratively with cooperating educational professionals in clinical experiences to plan and provide standards-based instruction integrating 21st century skills. As cooperative teaching models are used, cooperating educational professionals provide modeling, coaching, and mentoring in order to refine and enhance pre-service teachers' professional practice (Danielson, 2007). Given these considerations, cooperative teaching models could serve as an appropriate framework for clinical experiences, particularly the capstone student teaching experience.

## Conceptual Framework

An examination of the literature pertaining to the conceptual framework of cooperative teaching reveals, after careful analysis, that a 21st century cooperative teaching model rests upon the foundations of social development theory coupled with learning theory. In the process of creating this conceptual framework, I identified three learning theories rooted in Vygotsky's social development theory, with the capacity of further delineating Vygotsky's Zone of Proximal Development (ZPD) for the student teaching experience (Vygotsky, 1962). These three learning theories are (1) the situated-apprentice learning theory (Lave, 1996), (2) the critical-constructivist learning theory (Bentley, Ebert, & Ebert, 2007), and (3) the humanistic learning theory (Wang & Odell, 2002). This section creates a conceptual framework for cooperative teaching through the social development theory lens of Vgygotsky's zone of proximal development coupled with learning theories (Lave & Wenger, 1991; Lempert-Shepell, 1995; Wang & Odell, 2002; Vygotsky, 1962).

**Zone of proximal development.** The contextual perspective on the development of student teachers' ability to teach cannot be understood apart from the socio-historical context in which it occurs (Miller, 1993). Vygotsky's (1978) theory stressed the fundamental role of social interaction in an individual's cognitive development. In this formulation, social interaction is internalized, which results in conceptual changes as individuals appropriate new understandings. According to Vygotsky (1962), the zone of proximal development is the distance between what a learner is able to do and the proximal level the learner may achieve under guidance or collaboration with an expert. As knowledge is constructed through interactions among learners and experts, this collaborative learning becomes learning that occurs within the zone of proximal development. The emphasis on the zone of proximal

development in the student teaching experience is moving student teachers forward to the attainment of skills needed for the first year of teaching.

Using Vygotsky's framework, a socially situated view of teacher preparation combines the pedagogical knowledge of pre-service courses with the practical discourse occurring between the pre-service and in-service teachers of the classroom. This approach to teacher preparation views development as situated learning, as student teacher's knowledge of teaching forms from (a) prior experiences as learners, (b) pedagogical content of university coursework, and (c) observations of teaching during field experiences (Edwards, 1995; Lortie, 1975). Teaching methodology aligned with the zone of proximal development holds that individuals learn best when guided by and collaborating with those who are more experienced to internalize new concepts and skills (Roosevelt, 2008; Vygotsky, 1978). During the student teaching experience, this collaboration occurs as cooperating teachers engage student teachers in discussions about instructional responsibilities, connecting concepts learned in pre-service coursework with actual classroom experience (Wentz, 2001). Using the Vygotskan perspective, structured interactions with students combined with support from cooperating teachers help student teachers assimilate to classroom responsibilities, closing the gap between what the student teacher can do independently and a proximal level they may attain with assistance from the cooperating teacher (Chaiklin, 2003; Zeichner, 2002).

Vygotsky's sociocultural learning theory can be further explicated to relate specifically to student teaching through the three learning theories presented. The three learning theories are: (a) situated-apprentice learning theory, (b) critical-constructivist learning theory, and (c) humanistic learning theory.

**Situated-apprentice learning theory.** The thorough examination of the foundation of cooperative teaching is necessary in order to understand the learning theories that support a teacher's development from novice to master. When cooperative teaching is used during the capstone clinical experience, the process of learning to teach is effective as student teachers learn to reason with unique, authentic learning situations, act on these complex situations, and resolve problems accordingly, all under the guidance of a master teacher (Lave, 1996). This apprenticeship is based a particular relationship between the student teacher and cooperating teacher and strengthens the student teacher's ability to adapt teaching behaviors to specific learning environments. The situated-apprentice approach advocated by Jean Lave (1996) is similar to the approach advocated by Lee Vygotsky (Vygotsky, 1962). Wang and Odell (2002) characterize the situated-apprentice learning theory with three statements:

(1) Student teacher development is linear, moving from textbook and coursework examples to the act of teaching,

(2) Cooperating teachers serve as experts with realistic knowledge of teaching, and

(3) Coaching and demonstration by cooperating teachers guide novices' abilities in dealing with immediate problems of teaching.

Lave and Wenger's (1991) theory serves as a guide for understanding the situated-apprentice perspective of the student teaching experience. Student teachers become involved in a community of practice, where learning how to teach becomes a socially situated activity. The classroom serves as the fundamental condition for learning, where learning by the student teacher requires social interaction and collaboration with the cooperating teacher.

In the early stages of the student teaching experience, student teachers are at the edge of the practice of teaching. Lave and Wenger (1991) describe as legitimate peripheral participation, where "the mastery of knowledge and skills requires newcomers to move forward toward full participation in the socio-cultural practice of a community" (p. 29). As student teachers collaborate and work cooperatively with cooperating teachers, they become more immersed in the full practice of teaching. The classroom serves as the community where learning about the craft of teaching occurs (Grimmett & MacKinnon, 1992).

The idea of the situated-apprentice learning theory further explains how the learning process occurs during the student teaching experience. Brown, Collins, and Duguid (1989) stated that learning occurs when opportunities allow students to obtain, develop, and utilize cognitive tools in authentic learning situations. Student teaching provides a real context during which student teachers gradually acquire knowledge and skills from cooperating teachers in everyday activities. This theory provides a description of the situation where student teachers learn with experts during the capstone clinical experience.

**Critical-constructivist learning theory.** In addition to the situated-apprentice learning theory, the use of cooperative teaching models during the student teaching experience draws from the critical-constructivist learning theory, as student teachers continually shape and reshape their conceptual development of teaching skills by building their knowledge cooperatively with master teachers through ongoing experiences (Bentley et al., 2007). As adult learners, student teachers are motivated to learn as they experience situations that the learning satisfies, with supervision and feedback continuously available from cooperating teachers. This use of concrete experiences encourages student teachers to

take on new roles and promotes individual development (Daloz, 1986). Wang and Odell (2002) state the critical-constructivist learning theory suggests two assumptions:

(1) "One is a critical assumption that the fundamental goal of learning is continuously to transform existing knowledge and practice toward emancipatory ends" (p. 497); and

(2) "The other is a constructivist assumption that knowledge is actively built by learners through the process of active thinking or, in biological terms, assimilation and accommodation" (p. 497).

In the critical-constructivist view, both student teachers and cooperating teachers learn and create new knowledge and practice and depend upon each other and other educational professionals as they continuously generate new ideas and approaches to teaching (Cochran-Smith & Lytle, 1999; Wang & Odell, 2002). This learning theory encourages the use of collaboration and equal participation of cooperating teachers and student teachers (Cochran-Smith, 1991). Cooperating teachers must know how to work with student teachers to tap into existing knowledge and teaching abilities while stimulating and investigating new ideas about teaching (Feiman-Nemser & Parker, 1993; Groswami & Stillman, 1987).

The situated apprenticeship learning theory and the critical-constructivist learning theory are complementary and support one another. As constructivism stands on the premise that understanding and knowledge develops through experiences and reflections, situated learning theory states that learning occurs during authentic tasks and real word experiences. A realistic classroom environment in which student teachers are provided with authentic

experiences is crucial as student teachers adapt their knowledge and thinking to specific situations in the classroom (McLellan, 1996).

**Humanistic learning theory.** An additional learning theory that marks the development of student teachers from novice to expert is the humanistic learning theory. Grounded in the work of Abraham Maslow, the basis of the humanistic learning theory perspective is an intrinsic drive to learn, with the purpose of learning a self-actualization process (Hergenhahn, 1988). Drawing from Carl Rogers' theory of experiential learning, Maslow believed learning required personal involvement and evaluation by the learner to take true meaning from the learning experience (Bruner, 1996).

Wang and Odell (2002) state the humanistic learning theory is based on "placing the learner at the center and paying attention to the development of self esteem" (p.493), increasing the learner's personal development while also building specific content knowledge. This assumption of learning is present in teacher education programs that stress the importance of emotional support during a teaching candidate's journey into the profession (Gold, 1996). In the humanistic view, cooperating teachers serve as mentors who provide emotional support to student teachers, encouraging the use of instructional ideas student teachers want to try and helping to develop confidence in student teachers' teaching abilities (Enz & Cook, 1992; Gold, 1990).

The use of cooperative teaching models as a framework for student teaching experiences allow the student teacher and cooperating teacher to work collaboratively to promote student achievement (Villa et al., 2008). Figure 1 shows the relationship between a Vygotskan approach to teacher preparation with situated apprentice, critical constructivist, and humanistic learning theories. This holistic, authentic approach to teacher preparation

allows student teachers to construct their own frame of reference through internalization and assimilation of pedagogical knowledge and skills into actual practice (Anderson, 2007; Roosevelt, 2008; Vygotsky, 1978; Wang & Odell, 2002; Zeichner, 2002).

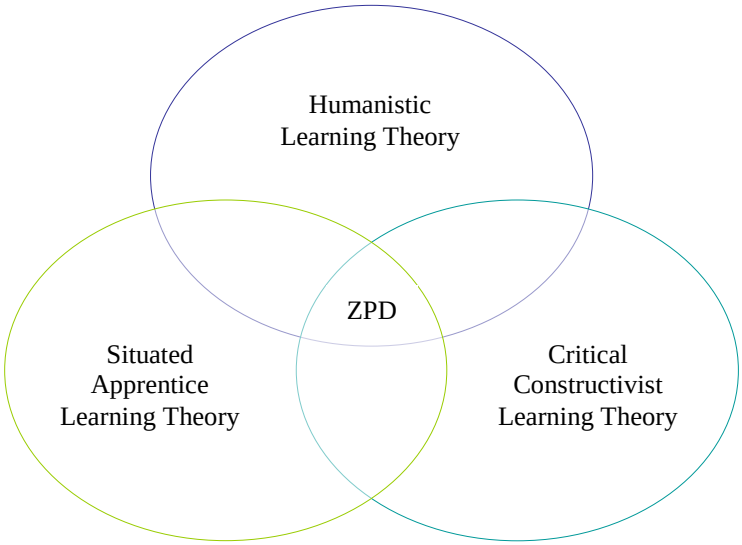


*Figure 1*. A Conceptual Framework for Student Teaching's Zone of Proximal Development

This study's research questions align with the conceptual framework in that each focuses on one or more of the specific areas of Vygotsky's Zone of Proximal Development as it relates to the classroom learning experiences of student teachers with the expert cooperating teacher. Research questions for this study are:

1. Which cooperative teaching models do student teachers use?
2. To what source do student teachers attribute their knowledge of cooperative teaching models?
3. How are cooperative teaching models considered and integrated by student teachers when planning for instruction?
4. What are the perceived supports and barriers that influence the use of cooperative teaching models by student teachers during student teaching?

All four questions target the student teachers' development during the capstone clinical experience. Table 5 is included to connect the conceptual framework with the research questions.

Table 5

*Conceptual Framework and Research Questions*

| Learning Theory | Research Question |
|---|---|
| Situated Apprentice | 1, 3, 4 |
| Critical Constructivist | 2 |
| Humanistic | 2, 3, 4 |

This exploratory study used three learning theories grounded in Vygotsky's social development theory as a conceptual framework for the research questions. In addition, selected learning theories, when viewed under the umbrella of Vygotsky's Zone of Proximal Development, combine to provide a focused approach to preparing student teachers to face the complexities of the classroom.

**Summary**

This chapter provides an analysis of the literature related to this study, with specific emphasis on the use of cooperative teaching models in 21st century student teaching experiences, is given. Three fundamental components of 21st century student teaching identified by this study are: (a) instruction focused on core standards that lead to a deep understanding and application of 21st century skills in all subject areas; (b) rich clinical experiences that connect theory with practice; and (c) personal learning opportunities involving collaboration, coaching, mentoring, and modeling with other educational professionals. A discussion of the three identified fundamental components in accordance with national and state standards for student teaching showed a correlation with essential elements for 21st century student teaching. Next, a review of literature related to cooperative teaching presented several frameworks supported by various configurations of models for teaching. These frameworks were examined for similarities among their teaching models. Three overarching models emerged for this study: (a) supportive cooperative teaching, (b) parallel cooperative teaching, and (c) complementary cooperative teaching. Following was a discussion of how the requirements of 21st century teaching are supported by cooperative teaching models. A conceptual framework for the use of specified cooperative teaching models as constructivist learning tools was presented as a Vygotskian Zone of Proximal

Development influenced by humanistic, situated apprentice, and critical constructivist learning theories. In Chapter 3, I will offer a description of the survey methodology for this study.

# Chapter Three

## Methodology

In this study, I explored the use of cooperative teaching models in 21st century student teaching experiences. I identified cooperative teaching models used most frequently in planning and instruction as well as student teachers' sources of knowledge of cooperative teaching models. I also explored the perceived supports and barriers that influence the use of cooperative teaching methods during the student teaching experience.

This chapter presents the rationale for using a survey design methodology. The specifics of the research study including the participant and site selection, instrument development, and data collection procedures are discussed. Issues of validity and response bias are also addressed.

### Research Questions

The traditional method of preparing students for an isolated teaching experience is changing, as more opportunities for student teachers to work collaboratively with cooperating teachers emerge (Zeichner, 2002). Notably, new emphases in teacher education programs focus on the establishment of collaborative clinical experiences related to coursework. The experiences use pedagogies that link theory with practice and establish close, proactive relationships with schools that serve diverse learners and model good teaching practices (Darling-Hammond, 2006; Gerber & Popp, 2000; Hoppey, Yendol-Silva, & Pullen, 2004; Zeichner, 2002). The use of cooperative teaching models as a framework for the student teaching addresses the need of teacher education programs to provide collaborative

experiences necessary for instruction in 21st century classrooms (Alter & Coggshall, 2009; Hassel et al., 2002). I explored the use of identified cooperative teaching models among an identified convenience sample of student teachers.

In terms of this study, the focus was on identified cooperative teaching models used for planning and instruction during the student teaching experience and the frequency of use of each model. The initial question that served as the impetus for this research was *"How is cooperative teaching used during the student teaching experience?"* Following a review of the literature, it is apparent that although an increasing number of universities cite the use of cooperative teaching methods during the student teaching experience, little research has been completed on the frequency of use of these methods (Bacharach et al., 2010; Espinor, 2009; Rietman, 2012). Frequently used between special education and general education teachers, the use of cooperative teaching methods in student teaching is an emerging practice. Roth and Tobin's (2004) study suggested that the use of cooperative teaching methods during student teaching assists in the development of stronger teachers. Research by Darling-Hammond and Bransford (2005) cited the need for teacher education programs to provide stronger support to student teacher candidates during their student teaching experience and indicated a need for stronger connections between coursework and field experiences. Other studies described what cooperative teaching methods are and use of these methods in elementary, middle, and high school classrooms, as well as in universities, but did not examine the value of using these teaching methods during student teaching (Bacharach, Heck, & Dahlberg, 2007; Bauwens & Horcade, 1995; Platt, Walker-Knight, Lee, & Hewitt, 2001; York-Barr, Bacharach, Salk, Frank, & Beniek, 2004).

A meta-analysis of literature completed by Murawski & Swanson (2001) found a lack of studies available on the effectiveness of the use of cooperative teaching methods. According to Zigmond and Magiera (2001), "The research base on the effectiveness of co-teaching is woefully inadequate. While there are many resources available to tell practitioners how to do it, there are virtually no convincing data that tell the practitioner that it is worth doing" (p. 4). The design of this study adds to the current literature on the use of cooperative teaching methods during the student teaching experience. In addition, this study focuses on the frequency of use of cooperative teaching methods between student teachers and cooperating teachers.

Following a review of the literature, the following questions emerged:

1. Which cooperative teaching models do student teachers use?
2. To what source do student teachers attribute their knowledge of cooperative teaching models?
3. How are cooperative teaching models considered and integrated by student teachers when planning for instruction?
4. What are the perceived supports and barriers that influence the use of cooperative teaching models by student teachers during student teaching?

The research questions provided the framework for the questionnaire developed to gather information from the identified convenience sample of student teachers.

**Design Rationale**

Survey research is a non-experimental quantitative method, used to acquire standardized information about a targeted population (Glock, 1967). Researchers can use information gathered from survey research to generalize findings from the targeted

population back to a larger population within the limits of random error (Thorndike, 1997). Survey research is used:

> to answer questions that have been raised, to solve problems that have been posed or observed, to assess needs and set goals, to determine whether or not specific objectives have been met, to establish baselines against which future comparisons can be made, to analyze trends across time, and generally, to describe what exists, in what amount, and in what context (Isaac & Michael, 1997, p. 136).

Survey research can serve descriptive, explorative, or explanative purposes (Babbie, 1973; Dillman, 1978; Fowler, 1984). This study had a descriptive purpose, focused on identifying the current use of cooperative teaching models among the identified convenience sample. As survey research aimed at description does not test theory or seek causal relationships, analysis of the data described the status of cooperative teaching by the identified convenience sample during the student teaching experience (Thorndike & Dinnel, 2001).

A forced-choice survey format was used for response options in this study. This design eliminated non-response choices and required participants to select a response that gives a specific answer to each question (Babbie, 1973). The rationale for using a forced-choice survey format for this study was that the elimination of non-response items such as no opinion, not sure, or not applicable would increase the number of questionnaires with responses that are valid for analysis (Lavrakas, 2008).

Descriptive studies determine characteristics of a population. Survey methods collect observational data for descriptive studies (Borg & Gall, 1989). A survey design provides a quantitative description of a population's attitudes and opinions by studying a sample of that

population (Creswell, 2008). This study described the cooperative teaching models used during the capstone clinical experience by an identified convenience sample of student teachers. The use of survey research design was appropriate for this study, as it seeks to collect information about the use of cooperative teaching models by the identified sample of student teachers using a structured questionnaire (Dillman, 2007; Pinsonneault and Kraemer, 1993).

A descriptive survey of an identified convenience sample of student teachers administered during the fall semester of 2012 at a university in the south served as the data collection tool. The questionnaire consisted of three parts: (a) demographics, (b) frequency of use and attributed knowledge bases of cooperative teaching models; and (c) perceived supports and barriers to the use of cooperative teaching models. Student teachers in the convenience sample were selected as participants for this research study as the selected university encourages the use of cooperative teaching models during the student teaching experience.

**Research design.** I used Babbie (1973); Creswell (2002, 2008); and Dillman (1978, 2000, 2007) as guides in designing this study. This study used a simple descriptive research design, with data collected at a single point in time (Creswell, 2002; Dillman, 1978). This design allowed for generalizations from the convenience sample to the larger population of student teachers at the point in time the questionnaire was conducted (Babbie, 1973). Information gathered from the convenience sample described characteristics of the defined target population related to the use of cooperative teaching models: however, inferences drawn from the data may lead to further research (Ross, 1987).

***Instrument design.*** The questionnaire was developed following a review of the literature on cooperative teaching and after consulting the articles: "The Collaborative Teaching Survey" (Fennick, 1995) "Collaborative Team Performance Survey" (Herbert, 1998), and "The Perceptions of Co-Teaching Survey" (Austin, 2001). In developing questions, I considered specific components of cooperative teaching including: preparation and planning (Bouck, 2007; Magiera et al., 2006; Orr, Thompson, Ross, & McAdory, 1998); collaboration (Adams & Cessna, 1991; Piechura-Couture et al., 2006); defined roles (Arguelles et al., 2000; Mastropieri et al., 2005; Weiss & Lloyd, 2002); shared responsibility (Adams, Cessna, & Friend, 1993; Austin, 2001); communication (Arguelles et al., 2000; Piechura-Couture et al., 2006); administrative support (Fontana, 2005; Keefe et al., 2004; Magiera et al., 2005; Murray, 2004; Rice & Zigmond, 2000; Weiss & Lloyd; 2003); and trust (Adams et al., 1993; Dieker, 2001; Kohler-Evans, 2006). I used closed-ended questions in the questionnaire. Closed-ended questions allowed participants to select from pre-designed answers and will measure the reported use of cooperative teaching models in the classroom, attributed knowledge bases of cooperative teaching models, and perceived barriers and supports to the use of cooperative teaching models (Brace, 2004). The original questionnaire consisted of 71 questions on a 4-point Likert scale.

***Validity.*** Allen and Yen (1979) noted that a test has validity if "it measures what it purports to measure" (p. 95). This study has content validity. Items on the questionnaire cover the field of cooperative teaching and align with the study's research questions (Thorndike & Dinnel, 2001). Table 6 shows the alignment of the research questions and the items on the original questionnaire.

Table 6

*Alignment of Research Questions and Original Questionnaire Items*

| Research Question | Correlating Questionnaire Items |
|---|---|
| 1 | 1, 11, 12, 20, 22, 23, 24, 28, 30, 32, 39, 42, 43, 47, |
| 2 | 5, 8, 9, 13, 16, 33, 34, 36, 37, 38, 44, 48, 49, 50, 52, 55 |
| 3 | 2, 3, 4, 6, 7, 10, 14, 15, 17, 19, 25, 26, 27, 29, 31, 35, 41, 54 |
| 4 | 18, 21, 40, 45, 46, 51, 53, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71 |

A quota sample of 36 students in the teacher education program enrolled in methods courses completed the pilot test of the questionnaire. Course instructors received paper copies of the questionnaire and administered the questionnaire to students during a class session. Participants completed the questionnaire as if they were research subjects and replied to open-ended questions regarding the relevance of survey questions (Frary, 1996). The pilot test established face validity, as participants examined the questionnaire to conclude whether the questions were understandable and addressed the use of cooperative teaching models during the student teaching experience (Allen & Yen, 1979). The pilot test also allowed me to evaluate the questions for any discrepancies (Jenkins & Dillman, 1997).

As a result of the pilot study, I eliminated 21 questions from the questionnaire. I changed the wording of 10 questions. Changes made addressed concerns in regards to relevance and clarity of specific items and length of the questionnaire. This established additional face validity, as I made changes to the questionnaire as suggested by participants

of the pilot study (Allen & Yen, 1979). The final questionnaire consisted of 50 questions on a 4-point Likert scale. Table 7 shows the alignment of the research questions and the items on the modified questionnaire. Eliminated items from the original questionnaire are found in Appendix B.

Table 7

*Alignment of Research Questions and Modified Questionnaire Items*

| Research Question | Correlating Questionnaire Items |
|---|---|
| 1 | 1, 8, 16, 17, 18, 20, 22, 24, 28, 30, 31, 33 |
| 2 | 5, 6, 9, 12, 25, 26, 27, 32, 34, 35, 36, 37 |
| 3 | 2, 3, 4, 7, 10, 11, 13, 14, 15, 19, 21, 23, 29 |
| 4 | 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 |

**Sampling procedures.** Determining appropriate sample size is important within any quantitative survey design (Bartlett, Kotrlik, & Higgins, 2001). The defined target population for this study was student teachers using cooperative teaching models during the capstone clinical experience. Stevens (1996) noted a convenience sample is a sample of participants selected based on the convenience of the researcher. Participants were drawn from a convenience sample of student teachers selected due to their accessibility to me.

Although some studies have found that Internet surveys have lower response rates than equivalent mail surveys, college students are an identified population having greater access and familiarity with the Internet (Cooper, Blair, & Triplett, 1999; Dillman, Tortora, & Bowker, 1999). This experience and comfort with the Internet and web-based tools lowers

coverage bias, or bias due to the sample population not having or deciding not to access the Internet (Crawford, Cooper, & Lamias, 2001).

Potential validity threats to the research study included email address changes and misspellings in entering email addresses that may increase the percentage of undeliverable invitations (Lozar Manfreda, Vehovar, & Batagelj, 2001). Additional problems were with the threat of viruses delivered by email, deletion of survey communication by automatic spam filters, or unnoticed survey communication by participants (Vehovar, Batagelj, Lozar Manfreda, & Zalatel, 2002). Technical glitches may have prevented the questionnaire from being successfully submitted by participants. An additional validity threat existed with the lack of face-to-face interaction with participants. I could not ensure that the participant was the one completing the questionnaire. As all practicing student teachers were invited to participate, some may have chosen not to become involved.

Proper wording of questions and use of a layout that is easy for participants to understand and navigate helped to ensure the reliability of this study. Couper (2008) found that Internet users scan text rather than read it carefully; therefore, short, concise question and answer texts were used in the questionnaire.

**Sample**

The participants for this study were student teachers from a university in the Southeast identified as a sample of convenience. I identified and invited all student teachers for the fall semester of 2012 to participate in the study. Participants in the study were enrolled in one of the undergraduate programs offered in the college (See Table 10). This university was chosen as it was a sample of convenience for my research.

**Data collection.** Data collection occurred using a self-administered, Internet-based questionnaire, given to the identified convenience sample during the mid-point of the student teaching experience. I used Survey Monkey to collect data from questions based on the research study objectives. The purpose of the research study was explained to participants in a pre-notification sent by email a few days before the main survey invitation (Dillman, 2000). Email addresses were available as the contact information for the identified convenience sample for this study, making it the preferable medium of communication. Email invitations provided for immediate receipt of messages by participants and allowed me to identify any nonexistent email addresses quickly (Lozar Manfreda et al., 2001). In addition, the use of email as a medium of communication reduced costs and increased speed of response (Dillman, 2000).

Questionnaires were administered once. Pre-notification of the upcoming questionnaire was sent to the identified convenience sample via email three days prior to the main invitation (Dillman, 2000). A third party with a previous relationship to the sample sent the pre-notification. Use of the pre-notification stressed the legitimacy of the study and ensured that participants did not perceive the invitation as spam (Lozar Manfreda et al., 2001). Kaplowitz, Hadlock, and Levine (2004) noted the use of pre-notifications as effective in increasing response rates of participants in web questionnaires.

The main invitation was sent to each participant via email, with a proposed completion date included (Dillman, 2000). The main invitation provided the identified convenience sample with information regarding the purpose of the study and provided clear directions on how to access the questionnaire (Porter & Whitcomb, 2003). Data was collected at the convenience of each participant. A follow-up contact was sent to all

participants one week after the main invitation. Dillman (2000) noted follow-up contacts as a way to increase response rates. As the questionnaires were completed on an anonymous basis, I was not able to identify which participants had not responded; therefore, a follow-up contact was sent to all members of the identified convenience sample in an attempt to increase response rates (Dillman, 2000). As an online database was used, data collected from the Internet-based questionnaire were automatically validated requiring participants to correct missing or incomplete responses before submission. This allowed for preliminary analysis of data without concern for missing or incomplete responses from participants (Smith & Leigh, 1997). The final response rate was 24%.

Data were collected using a single questionnaire instrument, consisting of three major components. Part I collected information regarding participants' frequency of use and attributed knowledge base of cooperative teaching models. Part II gathered data on perceived supports and barriers that influence the use of cooperative teaching models. Part III of the questionnaire gathered demographic information. Each question began with a number, with the question stem separated from answer choices. As suggested by Dillman (2007), answer choices were slightly indented and listed vertically. Questions were in black type on a white background, to avoid any color combinations that may be difficult for participants to read (Norman, 1988). A "progress bar" at the top of the computer screen showed participants how close they were to completion of the questionnaire (Dillman, 2007).

Personal information, such as name, address, and contact information, was not collected or displayed during this study. Participants were asked to identify the assigned grade level and subject area for student teaching as well as the area of licensure. Randomized

numbers were used to provide anonymity for participants. Participants' responses were entered into a Microsoft Excel spreadsheet in order to sort and filter data.

**Ethical Issues**

This research study conformed to the guidelines established by the American Psychological Association and the Institutional Review Board (IRB). The study was reviewed and approved by the IRB.

Participation in the research study posed minimal risk to the participants, with the same amount of risk participants would encounter during a usual classroom activity. Participant involvement in the research study was voluntary. Names of participants were not used in research findings. Informed consent appeared on the first page of the questionnaire. Participants were given the option to decline participation before beginning the questionnaire if they did not voluntarily agree to participate (Singer, 2008).

I had no prior interaction with the participants in the research study. I respected the anonymity of all participants in the study. For example, I did not reveal the results of specific participants of the research study to school principals or university personnel. This research study did not put anyone at risk for sharing perceptions or viewpoints.

**Data Analysis Procedures**

Data collected for forced-choice, closed-ended questions were organized by subgroup (grade level, content area), with results tabulated separately for the whole group and each subgroup. Responses to closed-ended questions were entered into a prepared database. To ensure equal distribution across the scale, the scaled response for each questionnaire item was assigned a number from one to four.

Emphasis was on descriptive statistics. Descriptive statistics were useful in determining the frequency of use of cooperative teaching models in planning and instruction. If one or more cooperative teaching methods were found to have extremely high or low ratings by the participants, this could have great implications on the presentation of cooperative teaching models during pre-service teachers' methods courses and/or professional development sessions for cooperating teachers. In other words, if a particular cooperative teaching model was found to have a significantly low frequency of use by participants, teacher education programs and cooperating school districts may be more interested in examining the use of those cooperative teaching models with higher frequency of use.

**Summary**

Throughout chapter 3, a rationale for using survey design methodology was presented. First, I provided the specific details of the research study, including the research questions, participant and site selection, instrument design, and data collection procedures. In addition, I provided a description of the data analysis procedures. In chapter 4, I will present the findings of the study.

# Chapter Four

## Findings of the Study

The purpose of this exploratory study was to examine the cooperative teaching framework for 21st century student teaching and look at how practicing student teachers are using and understanding the three models created from the framework. This study focused on in-service student teachers and examined their current use and knowledge of cooperative teaching models. Through a self-administered Internet-based questionnaire, I examined how student teachers plan and use cooperative teaching models in instruction and identified existing supports and barriers that contribute to student teachers' use of cooperative teaching models. The following research questions were addressed:

1. Which cooperative teaching models do student teachers use?
2. To what source do student teachers attribute their knowledge of cooperative teaching models?
3. How are cooperative teaching models considered and integrated by student teachers when planning for instruction?
4. What are the perceived supports and barriers that influence the use of cooperative teaching models by student teachers during student teaching?

### Statistical Profile of the Participants

Participants' demographics, including age, gender, and race/ethnicity were examined. In addition, educational background, including area of licensure, other experiences in

education, and parents' experience in education were examined. Descriptive statistics are presented for the total sample.

**Participant demographics.** Invitations to participate in the study were sent to 344 practicing student teachers. Of those, 81 completed the survey. The response rate was 24%. Group sample size is presented in Table 8. All of the participants were practicing student teachers from the identified convenience sample of students enrolled in the teacher preparation program at a university in the Southeast.

Participant ages are presented in Table 8. The range of participants was 20-41+ years of age. The age of participants reflects their ages on the date they completed the self-administered Internet based questionnaire. The majority of participants were female (85%). The percentage of females and males is presented in Table 8. The majority of participants were white/Caucasian (95.06%). The percentage of each race/ethnic group is presented in Table 9.

Table 8

*Sample Size, Age, and Gender*

| Age | *N* | Percent Female | Percent Male |
|---|---|---|---|
| 20-25 | 73 | 83.56 | 16.44 |
| 26-30 | 0 | 0 | 0 |
| 31-35 | 2 | 100 | 0 |
| 36-40 | 2 | 100 | 0 |
| 41+ | 3 | 100 | 0 |
| Total | 80[a] | 85 | 15 |

[a]Total sample size was 81; however, one participant did not respond to age question.

Table 9

*Sample Race/Ethnic Group*

| Race/Ethnic Group | *N* | Percent |
|---|---|---|
| White/Caucasian | 77 | 95.06 |
| Multi-Racial | 2 | 2.47 |
| Black/African-American | 1 | 1.23 |
| Hispanic/Latino | 1 | 1.23 |

**Educational background.** Participants in this study are enrolled in one of the undergraduate programs offered in the college. Table 10 presents information on the area of licensure of participants. The majority of participants were seeking licensure in Elementary Education K-6 (34.57%). All areas of licensure were represented in this study with the exception of Chemistry, Secondary Education (9-12); Child Development, Birth to Kindergarten; Geology, Secondary Education (9-12); Music, Choral Music Education (K-12); Music, General Music Education (K-12); Physics, Secondary Education (9-12); and Technology, Secondary Education (9-12). In addition, Table 10 presents the numbers of females and males in each area of licensure.

Table 10

*Area of Licensure*

| Area | *N* | Females | Males |
|---|---|---|---|
| Art (K-12) | 4 | 4 | 0 |
| Biology (9-12) | 1 | 1 | 0 |
| Chemistry (9-12) | 0 | 0 | 0 |
| Child Development (B-K) | 0 | 0 | 0 |
| Elementary Education(K-6) | 28 | 28 | 0 |
| English (9-12) | 3 | 3 | 0 |
| Family Consumer Sciences (9-12) | 1 | 1 | 0 |
| Geology (9-12) | 0 | 0 | 0 |
| Health (9-12) | 2 | 1 | 1 |
| History (9-12) | 3 | 1 | 2 |
| Mathematics (9-12) | 7 | 4 | 3 |
| Middle Grades, LA & Math (6-9) | 2 | 2 | 0 |
| Middle Grades, LA & Science (6-9) | 1 | 1 | 0 |
| Middle Grades, LA & SS (6-9) | 5 | 4 | 1 |
| Middle Grades, Math & Science (6-9) | 2 | 2 | 0 |
| Middle Grades, Math & SS (6-9) | 1 | 1 | 0 |
| Middle Grades, Science & SS (6-9) | 1 | 1 | 0 |
| Music, Choral (K-12) | 0 | 0 | 0 |

Table 10 (continued)

| *Area of Licensure* | | | |
|---|---|---|---|
| Music, General (K-12) | 0 | 0 | 0 |
| Music, Instrumental (K-12) | 4 | 1 | 3 |
| Physical Education (K-12) | 1 | 0 | 1 |
| Physics (9-12) | 0 | 0 | 0 |
| Spanish (K-12) | 4 | 4 | 0 |
| Special Education Adaptive (K-12) | 1 | 0 | 1 |
| Special Education General (K-12) | 9 | 9 | 0 |
| Theatre Arts (K-12) | 1 | 1 | 0 |
| Technology (9-12) | 0 | 0 | 0 |
| Total | 81 | 69 | 12 |

*Note.* LA refers to Language Arts; SS refers to Social Studies.

Forty-four participants had other experience in education apart from experiences provided by the teacher education program. Twenty-five participants worked as volunteer tutors and 15 worked as paid tutors. In addition, six participants were teacher assistants and 16 worked in other areas. The other areas were not defined in the survey. Of the total participants, 37 did not respond to this question. My data show that 31 females and six males did not respond to this question.

The percentage of participants with parents in the education profession was 17.5%. Sixty-six participants did not have a parent employed in an educational profession (82.5%). One participant did not respond to this question.

**Research Question One**

The first research question asked student teachers to identify which cooperative teaching models they use in classroom instruction. To answer this question, student teachers were asked to identify the frequency of use of three models of cooperative teaching: supportive cooperative teaching, parallel cooperative teaching, and complementary cooperative teaching. Descriptions of each cooperative teaching model were provided at the beginning of the questionnaire. Participants' frequency of use of supportive cooperative teaching (Figure 2), complementary cooperative teaching (Figure 3), and parallel cooperative teaching (Figure 4) are provided.

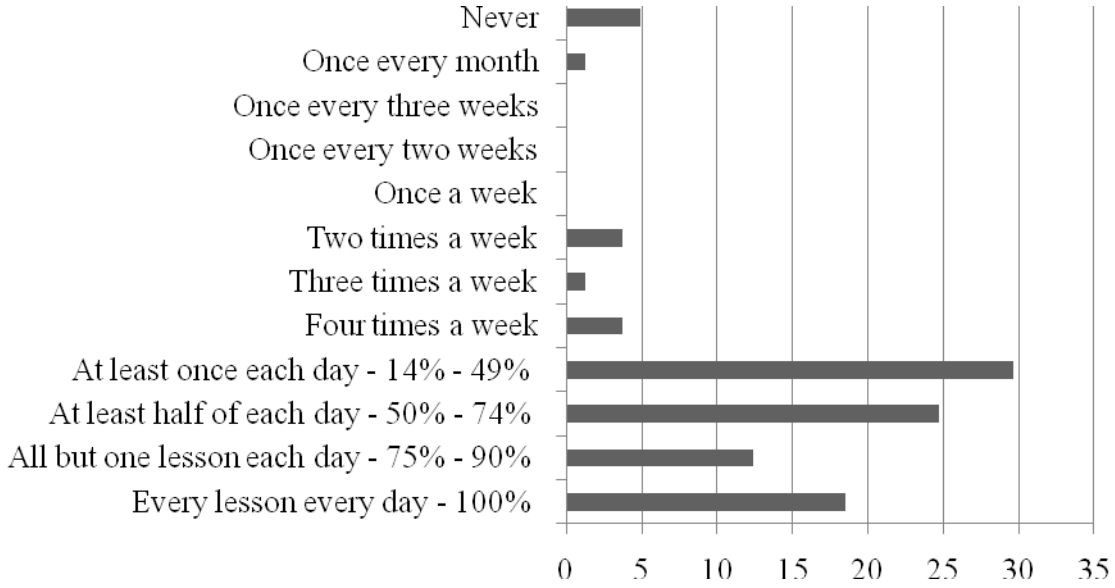


*Figure 2.* Supportive Cooperative Teaching

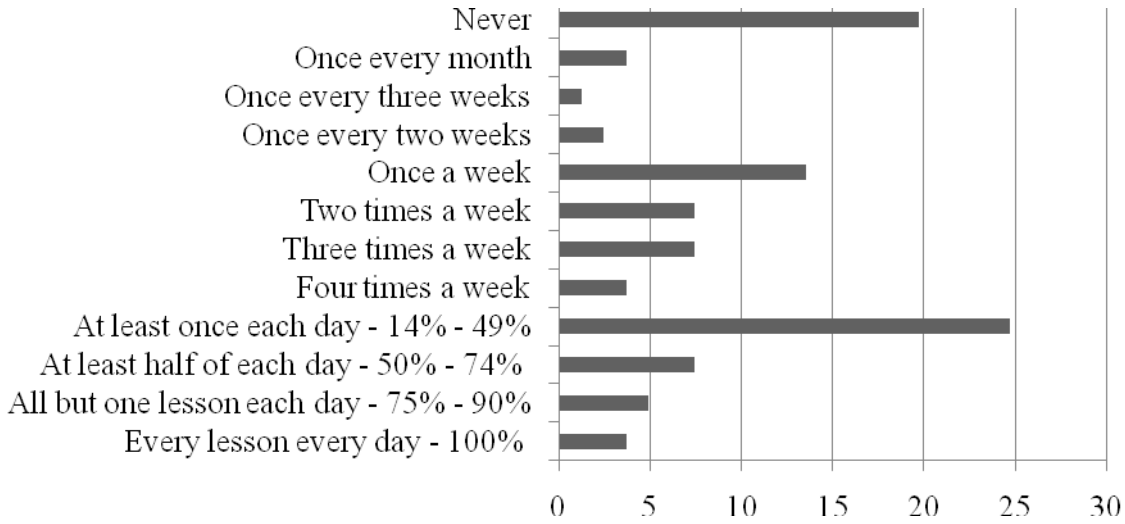


*Figure 3.* Complementary Cooperative Teaching

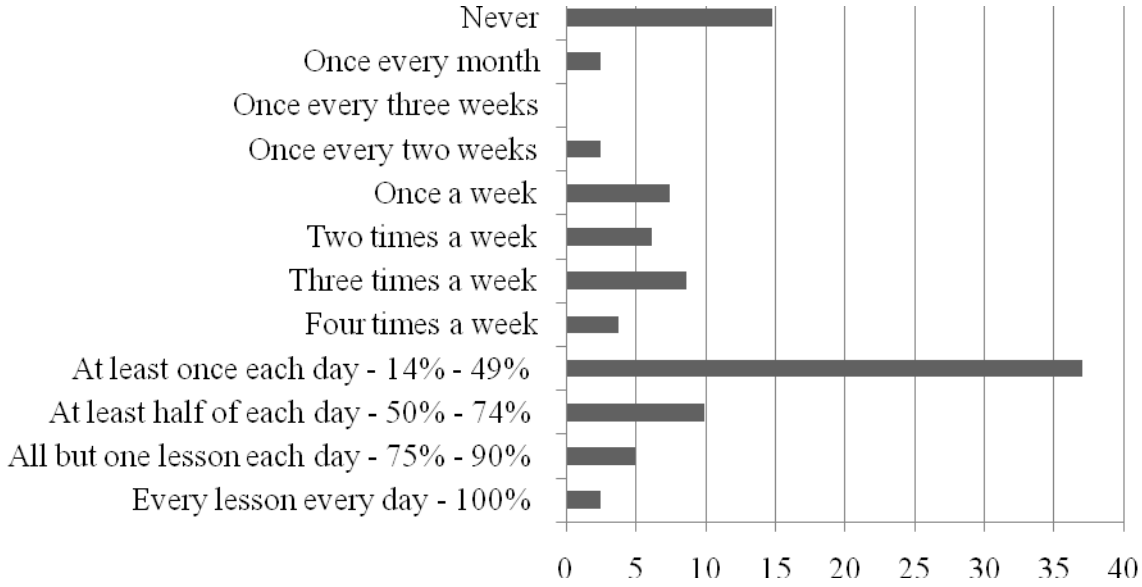


*Figure 4.* Parallel Cooperative Teaching

To address research question one, participants in the study rated their level of agreement or disagreement with statements on the questionnaire regarding the use of cooperative teaching models during student teaching. Statements assessed the instructional impact of the use of cooperative teaching through collaborative work with cooperating teachers, fluidity in responsibilities, and receptiveness of students. This information is presented in Table 11.

Table 11

*Research Question One – Use of Cooperative Teaching Models by Student Teachers*

| Statement | Strongly Agree *(n)* | Agree *(n)* | Disagree *(n)* | Strongly Disagree *(n)* |
|---|---|---|---|---|
| My cooperating teacher and I work well together. | 65.2 (52) | 32.5 (26) | 1.25 (1) | 1.25 (1) |
| There is a fluid exchange of responsibilities between by cooperating teacher and me. | 29.49 (23) | 64.1 (50) | 5.13 (4) | 1.28 (1) |
| My cooperating teacher and I are both present in the classroom when co-teaching models are used. | 35.9 (28) | 52.56 (41) | 5.13 (4) | 6.41 (5) |
| All students are monitored during co-taught lessons. | 50 (39) | 46.15 (36) | 2.56 (2) | 1.28 (1) |
| Both teachers have an active role in classroom instruction. | 38.46 (30) | 51.28 (40) | 7.69 (6) | 2.56 (2) |
| Both teachers talk during co-taught instruction. | 40.51 (32) | 43.04 (34) | 13.92 (11) | 2.53 (2) |
| Problems that arise in the classroom are addressed by both teachers. | 33.33 (26) | 60.26 (47) | 5.13 (4) | 1.28 (1) |

Table 11 (continued)

*Research Question One – Use of Cooperative Teaching Models by Student Teachers*

| | | | | |
|---|---|---|---|---|
| Instruction is significantly different when co-teaching models are used. | 16.46 (13) | 60.76 (48) | 22.78 (18) | 0 (0) |
| Students are receptive to the use of co-teaching models during classroom instruction. | 36.71 (29) | 54.43 (43) | 7.59 (6) | 1.27 (1) |
| Students accept both teachers as equal partners in the classroom. | 24.36 (19) | 53.85 (42) | 20.51 (16) | 1.28 (1) |
| Modifications and accommodations for students are provided during the use of co-teaching models. | 49.35 (38) | 46.75 (36) | 3.9 (3) | 0 (0) |
| Students are provided with opportunities to interact during co-taught lessons. | 39.74 (31) | 56.41 (44) | 3.85 (3) | 0 (0) |

*Note.* Total sample size was 81; however, not all participants responded to all statements.

**Research Question Two**

The second research question asked student teachers to identify the source to which they attributed their knowledge of cooperative teaching models. To answer this question, student teachers identified where they had encountered the use of cooperative teaching models. Figure 5 provides information regarding the areas where participants indicated they had encountered the use of cooperative teaching models.

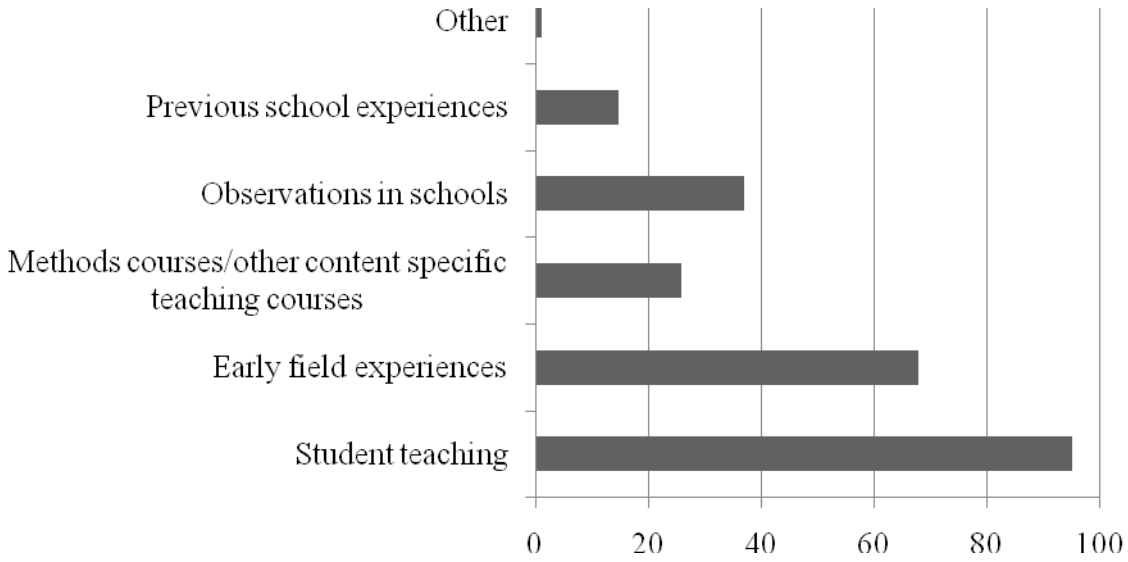


*Figure 5*. Encounters of Use of Cooperative Teaching

To address research question two, participants in the study rated their level of agreement or disagreement with statements on the questionnaire regarding the source of knowledge of cooperative teaching models. Statements measured the comfort level of participants in using cooperative teaching models to provide instruction collaboratively with cooperating teachers. This information is presented in Table 12.

Table 12

*Research Question Two – Source of Knowledge of Cooperative Teaching Models*

| Statement | Strongly Agree *(n)* | Agree *(n)* | Disagree *(n)* | Strongly Disagree *(n)* |
|---|---|---|---|---|
| My cooperating teacher and I have a similar teaching philosophy. | 45 (36) | 42.5 (34) | 10 (8) | 2.5 (2) |
| My cooperating teacher and I have complementary teaching styles. | 45 (36) | 45 (36) | 7.5 (6) | 2.5 (2) |
| I feel comfortable providing instruction in a classroom using co-teaching. | 39.74 (31) | 55.13 (43) | 2.56 (2) | 2.56 (2) |
| Changes can occur during instructional lessons if needed to accommodate students' needs. | 57.14 (44) | 41.56 (32) | 1.3 (1) | 0 (0) |
| My ideas for using co-teaching models in instruction are accepted by my cooperating teacher. | 27.85 (22) | 64.56 (51) | 7.59 (6) | 0 (0) |
| Research-based strategies are used during co-taught lessons. | 40.51 (32) | 49.37 (39) | 10.13 (8) | 0 (0) |

Table 12 (continued)

*Research Question Two – Source of Knowledge of Cooperative Teaching Models*

| | | | | |
|---|---|---|---|---|
| I feel comfortable voicing my concerns to my cooperating teacher. | 36.71 (29) | 56.96 (45) | 5.06 (4) | 1.27 (1) |
| My cooperating teacher appears comfortable with my presence in the classroom. | 46.15 (36) | 53.85 (42) | 0 (0) | 0 (0) |
| I feel comfortable giving directions or permission to students without checking with my cooperating teacher. | 46.84 (37) | 50.63 (40) | 2.53 (2) | 0 (0) |
| The use of co-teaching models is expected during my student teaching experience. | 50 (39) | 44.87 (35) | 3.85 (3) | 1.28 (1) |
| Co-teaching helps me to become a better teacher. | 38.46 (30) | 56.41 (44) | 5.13 (4) | 0 (0) |

*Note.* Total sample size was 81; however, not all participants responded to all statements.

**Research Question Three**

The third research question asked participants to indicate how cooperative teaching models were considered and integrated by student teachers when planning for instruction. To address research question three, participants in the study rated their level of agreement or disagreement with statements on the questionnaire regarding the use of cooperative teaching models during instructional planning with cooperating teachers. This information is presented in Table 13.

Table 13

*Research Question Three– Involvement of Cooperative Teaching Models in Instructional Planning*

| Statement | Strongly Agree *(n)* | Agree *(n)* | Disagree *(n)* | Strongly Disagree *(n)* |
|---|---|---|---|---|
| Classroom management responsibilities are shared. | 40 (32) | 56.25 (45) | 2.5 (2) | 1.25 (1) |
| Roles and responsibilities for each teacher are clearly defined. | 28.75 (23) | 62.5 (50) | 7.5 (6) | 1.25 (1) |
| My cooperating teacher and I have frequent discussions about the use of co-teaching models. | 15 (12) | 46.25 (37) | 28.75 (23) | 10 (8) |
| Cooperative teaching is part of our scheduled instruction. | 31.25 (25) | 46.25 (37) | 16.25 (13) | 6.25 (5) |
| My cooperating teacher and I agree on the instructional goals of the co-taught classroom. | 44.87 (35) | 47.44 (37) | 7.69 (6) | 0 (0) |
| All materials are shared in the classroom. | 46.15 (36) | 50 (39) | 3.85 (3) | 0 (0) |
| My cooperating teacher and I share responsibilities of planning for instruction. | 26.92 (21) | 55.13 (43) | 15.38 (12) | 2.56 (2) |

Table 13 (continued)

*Research Question Three– Involvement of Cooperative Teaching Models in Instructional Planning*

| | | | | |
|---|---|---|---|---|
| Students view my cooperating teacher as the "real" teacher. | 19.23 (15) | 41.03 (32) | 35.9 (28) | 3.85 (3) |
| Communication with my cooperating teacher is open and honest. | 38.46 (30) | 55.13 (43) | 5.13 (4) | 1.28 (1) |
| Students' learning styles are considered when planning for instruction using co-teaching models. | 30.77 (24) | 65.38 (51) | 3.85 (3) | 0 (0) |
| My cooperating teacher and I consider specific academic and behavioral needs when planning for instruction. | 38.46 (30) | 58.97 (46) | 2.56 (2) | 0 (0) |
| Routines for using co-teaching models have been jointly developed. | 26.92 (21) | 53.85 (42) | 16.67 (13) | 2.56 (2) |
| Strengths of each teacher are considered when planning for instruction. | 22.78 (18) | 53.16 (42) | 22.78 (18) | 1.27 (1) |

*Note.* Total sample size was 81; however, not all participants responded to all statements.

**Research Question Four**

The fourth research question asked participants to identify the supports and barriers that influenced the use of cooperative teaching models during student teaching. To address research question four, participants in the study evaluated their level of agreement or disagreement with statements on the questionnaire regarding specific supports and barriers to using cooperative teaching models. This information is presented in Table 14.

Table 14

*Research Question Four – Supports and Barriers to the Use of Cooperative Teaching Models*

| Statement | Strongly Agree *(n)* | Agree *(n)* | Disagree *(n)* | Strongly Disagree *(n)* |
|---|---|---|---|---|
| Daily planning time is provided with my cooperating teacher. | 25.97 (20) | 53.25 (41) | 19.48 (15) | 1.3 (1) |
| Administration is supportive of co-teaching. | 25.64 (20) | 71.79 (56) | 2.56 (2) | 0 (0) |
| The school climate supports the use of co-teaching. | 25.64 (20) | 66.67 (52) | 7.69 (6) | 0 (0) |
| Cooperating teachers are provided with professional development on co-teaching models. | 16.67 (13) | 47.44 (37) | 30.77 (24) | 5.13 (4) |
| Cooperating teachers volunteer to use co-teaching models. | 21.79 (17) | 61.54 (48) | 16.67 (13) | 0 (0) |
| Classroom responsibilities, such as delivering instruction and assessment, are shared equally. | 29.49 (23) | 53.85 (42) | 14.1 (11) | 2.56 (2) |
| Adequate time is provided to prepare materials for instruction. | 21.79 (17) | 56.41 (44) | 19.23 (15) | 2.56 (2) |

Table 14 (continued)

*Research Question Four – Supports and Barriers to the Use of Cooperative Teaching Models*

| | | | | |
|---|---|---|---|---|
| Communication with my cooperating teacher is ongoing and honest. | 47.44 (37) | 47.44 (37) | 5.13 (4) | 0 (0) |
| My cooperating teacher encourages the use of co-teaching models. | 37.66 (29) | 49.35 (38) | 12.99 (10) | 0 (0) |
| Pre-service courses prepared me to use co-teaching models. | 24.36 (19) | 41.03 (32) | 24.36 (19) | 10.26 (8) |
| The university supports my use of co-teaching models. | 37.18 (29) | 58.97 (46) | 2.56 (2) | 1.28 (1) |
| The grade level of my student teaching placement is conducive to the use of co-teaching models. | 39.74 (31) | 56.41 (44) | 1.28 (1) | 2.56 (2) |
| The content area of my student teaching placement is conducive to the use of co-teaching models. | 42.31 (33) | 55.13 (4) | 2.56 (2) | 0 (0) |

*Note.* Total sample size was 81; however, not all participants responded to all statements.

**Summary**

This chapter provided a descriptive analysis of the relationship between cooperative teaching and student teaching using aggregate data from a self-administered Internet-based questionnaire. Participants in this study were an identified convenience sample of practicing student teachers. Data presented in this chapter address the study's research questions and describe the current use and knowledge of cooperative teaching models by student teachers, how cooperative teaching models are used in planning for instruction, and identify the supports and barriers that contribute to the use of cooperative teaching models by the participants.

This study found that cooperative teaching models were used during the student teaching experience with student teachers and cooperating teachers. The supportive cooperative teaching model was used most commonly, followed by complementary cooperative teaching and parallel cooperative teaching. Other than during the student teaching experience, participants identified prior experiences with cooperative teaching occurring during early field experiences and observations in schools. Shared responsibilities, clearly defined roles and responsibilities, and shared materials were noted by participants as important when considering and integrating cooperative teaching models. Additionally, participants noted administrative support, ongoing communication with cooperating teachers, and a supportive school climate as present supports to the use of cooperative teaching models during the student teaching experience.

# Chapter Five

## Discussion

This exploratory study examined a collaborative approach to student teaching using a cooperative teaching framework for the 21st century student teaching experience. Specifically, this study examined the use of a cooperative teaching framework during the student teaching experience for an identified convenience sample of student teachers at a university in the south. The purpose of this study was to investigate the use of specific cooperative teaching models, including (a) supportive cooperative teaching, (b) parallel cooperative teaching, and (c) complementary cooperative teaching. Given its history in the education of students with disabilities in the regular classroom, the use of cooperative teaching models is not a new trend; however, its application as a framework for the student teaching experience is a relatively new area of study. This study adapted the special education framework of cooperative teaching to general education student teaching. Furthermore, this study offered a unique opportunity to examine the use of supportive cooperative teaching, parallel cooperative teaching, and complementary cooperative teaching as a framework for 21st century student teaching. This chapter provides an analysis of findings from the study, along with research limitations, implications, and suggestions for further research.

### Analysis of Findings

The statistical analysis offers important information on student teachers' current practices and perceptions associated with cooperative teaching. Analyses of the data

indicated the most commonly used cooperative teaching model was supportive cooperative teaching, followed by complementary cooperative teaching, with parallel cooperative teaching used least frequently. In addition, the three most commonly identified sources by participants for encountering the use of cooperative teaching were student teaching, early field experiences, and observations in schools. I reviewed a variety of statements that assessed student teachers' involvement of cooperative teaching models in instructional planning. Participants affirmed the importance of shared responsibilities, clearly defined roles and responsibilities, and shared materials when planning for instruction. Additionally, student teachers surveyed identified supports and barriers to the use of cooperative teaching models with the large majority perceiving administrative support, ongoing communication with cooperating teachers, and a supportive school climate as present supports.

Further, a closer examination revealed trends missed through the quantitative analysis. Specifically, trends emerged for the entire student teacher population, as well as within and between particular subgroups, including secondary teachers, elementary teachers, middle grades teachers, and special education teachers. I identified trends from similar responses by members of subgroups to questionnaire statements.

**Student teachers.** A comprehensive examination of the data revealed interesting trends about student teachers. For example, student teachers are not convinced that cooperative teaching was the most important factor in improving their teaching abilities. Specifically, 56.41% agreed and 38.46% strongly agreed that cooperative teaching helped them to become better teachers. In addition, although a subtle difference exists between those who agreed and strongly agreed, this could affect some student teachers' decisions to use cooperative teaching. Research suggested the use of collaborative practices could strengthen

student teachers' understanding of curriculum and appropriate teaching strategies (Bouck, 2007; Chapman & Hyatt, 2011; Kloo & Zigmond, 2008; Villa et al., 2008). Similarly, Roth and Tobin's (2004) study suggested the use of cooperative teaching methods during student teaching assisted in the development of stronger teachers. However, my data suggests student teachers are not entirely convinced the use of cooperative teaching is the only determining factor in increasing teaching abilities.

When considering student teachers' preparation to use cooperative teaching, trends indicate that pre-service courses are not adequate. Of the participating student teachers, 24.36% disagreed that pre-service courses prepared them to use cooperative teaching models. In comparison, 41.03% agreed and 24.36% strongly agreed. The current study contributes support to previous studies that indicated an inadequacy in preparation to use cooperative teaching for prospective teachers. Several earlier studies reported that few opportunities were provided during coursework for student teachers to observe and participate in collaborative practices (Bacharach et al., 2006; Darling-Hammond et al., 2002; Glenn, 2006). In addition, my data aligns with Chelsey and Jordan's (2012) stance that teacher education programs must provide opportunities for pre-service teachers to develop collaborative skills. The results suggest that an intentional, explicit focus must be placed on the preparation of student teachers for collaboration. This aligns with Kamens' (2007) viewpoint that cooperative teaching models must be introduced early and used consistently throughout pre-service coursework. Because not all participants agreed or strongly agreed that pre-service courses were adequately preparing them to use cooperative teaching, the possibility exists that inadequate preparation may have affected student teachers' willingness to work collaboratively.

Moreover, data from the current study indicated in addition to inadequate preparation of student teachers for collaborative work, cooperating teachers are not prepared to use cooperative teaching. Specifically, 30.77% of student teachers disagreed that professional development on cooperative teaching models was provided to cooperating teachers. Conversely, 47.44% agreed that appropriate professional development was provided. Although the teacher preparation program from which the convenience sample was drawn provides professional development to cooperating teachers, the results suggest that training on specific cooperative teaching models may not be sufficient. Weiss and Lloyd's (2003) study indicated professional development was necessary to promote collaborative practices. One explanation for cooperating teachers' hesitancy to practice cooperative teaching could be a lack of professional development.

**Secondary teachers.** Through examination of the data for secondary teachers, some interesting trends were revealed. For example, secondary teachers are less likely to use cooperative teaching models. Of the participating secondary teachers, 24% disagreed and 12% strongly disagreed that cooperative teaching was part of scheduled instruction. This contrasts with the general frequencies data which showed 46.25% agreed and 31.25% strongly agreed that cooperative teaching models were used in scheduled instruction. Results support literature that indicated secondary teachers are less likely to use collaborative models in comparison to elementary or middle grades teachers (Jackson et al., 2000).

Several reasons may exist for the less frequent use of cooperative teaching at the secondary level. One reason may be the greater weight placed on content area comprehension and the increased content knowledge required for teaching at the secondary level (Mastropieri & Scruggs, 2009). Also, the organization of secondary schools may challenge

the use of cooperative teaching. My data align with Ellet's (1993) viewpoint that large class sizes at the secondary level may contribute to a less frequent use of cooperative teaching. In addition, Ellet noted faster pace of content delivery as an obstacle for the use of cooperative teaching at the secondary level. Further, only 47% of secondary teachers in this study agreed that daily planning time was provided with cooperating teachers. These findings support Murray's (2004) stance that lack of time for collaboration and planning may cause additional challenges to using cooperative teaching at the secondary level. The possibility exists that the challenges noted in the research may have affected the use of cooperative teaching by secondary level participants in my study.

When using cooperative teaching models, secondary teachers were more likely to use supportive cooperative teaching. Specifically, 35.29% used supportive cooperative teaching at least half of each day, while 17.64% used supportive cooperative teaching for every lesson every day. This supports the general frequencies data that showed 24.69% of participants used supportive cooperative teaching at least half of each day and 18.52% used supportive cooperative teaching for every lesson every day. Results align with Villa et al.'s (2008) stance that teachers who are new to cooperative teaching often use the supportive cooperative teaching model. As the supportive cooperative teaching model is effective when one teacher has greater expertise than the other, this may explain why participants chose to use this model more frequently. In addition, participants may have selected the supportive cooperative teaching model as this approach is beneficial to use when one participant needs close monitoring or additional practice with specific instructional skills (Bauwens et al., 1989; Villa et al., 2004).

Trends indicate that when using cooperative teaching models, not all secondary teachers explored the use of different cooperative teaching models. Specifically, 47% agreed and 41% disagreed that they experimented with using different cooperative teaching models in instruction. Results for secondary teachers are similar to those for the entire sample in which 34.18% agreed and 45.57% disagreed that experimentation with various cooperative teaching models occurred. The results suggest that participants were less comfortable using different cooperative teaching models. One reason may be a lack of physical space in the classroom. This supports Villa et al.'s (2004) viewpoint that adequate physical space is an important consideration in the use of parallel cooperative teaching. Cook and Friend (1995) also noted adequate space as important when using complementary cooperative teaching. Another reason may be concerns with noise levels. Cook and Friend (1995) and Walther-Thomas et al. (2000) noted instruction must reflect appropriate noise levels when using parallel and complementary cooperative teaching models. Although specific statements regarding physical space and noise levels were not included on the questionnaire, the possibility exists that challenges related to these two areas may have affected the willingness of secondary teachers to experiment with different cooperative teaching models.

**Middle grades teachers.** Closer examination of the data revealed trends not only at the secondary level, but also at the middle school level. For example, trends indicate middle grades teachers integrate cooperative teaching models more equitably in comparison to secondary and elementary teachers. Results showed that 42% used supplementary, parallel, or complementary cooperative teaching for instruction at least one time each day. The results are higher than the general frequencies data which showed 29.63% used supplementary cooperative teaching, 24.69% used parallel cooperative teaching, and 37.04% used

complementary cooperative teaching at least once each day for instruction. No literature exists to support why middle grades teachers were more likely to use the three models of cooperative teaching more equally than secondary or elementary teachers.

However, trends also illustrate that middle grades teachers recognized a difference in instruction when using cooperative teaching. Specifically, 91.67% of middle grades teachers agreed that instruction was significantly different when cooperative teaching models were used. This contrasts with data for the entire sample which showed 60.76% agreed that a difference was apparent in instruction using cooperative teaching. The results suggest that middle grades teachers are more likely to use cooperative teaching due to differences in instruction. One reason may be the flexibility in instructional delivery when using cooperative teaching. When using cooperative teaching, teachers work collaboratively using different instructional approaches to improve learning for all students. This aligns with Austin's (2001) stance that the use of cooperative teaching increased teachers' skills in adapting instruction for all students. Another reason may be physical differences in instructional delivery. In parallel cooperative teaching, teachers plan instruction collaboratively, then divide the class and simultaneously deliver instruction to small groups (Bauwens et al., 1989). Complementary cooperative teaching allows one teacher to maintain responsibility for teaching a large group while the second teacher works with a small group of students to deliver supplemental instruction (Villa et al., 2004). Middle grades teachers may have noted differences in instruction due to instructional flexibilities when using cooperative teaching.

**Elementary teachers.** Apart from secondary and middle grades teachers, trends were also noted for elementary teachers. For example, elementary teachers were more likely to use

cooperative teaching models. Of the participating elementary teachers, 42.86% agreed and 39.29% strongly agreed that cooperative teaching was part of scheduled instruction. Results contrast with data for the entire sample which showed 16.25% disagreed and 6.25% strongly disagreed that scheduled instruction involved cooperative teaching. The results support literature that stated cooperative teaching was used more frequently at the elementary level (Jackson, Ryndak, & Billingsley 2000). It is possible that elementary teachers used cooperative teaching more frequently given the comfort level at the elementary level in using cooperative teaching strategies, such as small group instruction and stations.

When using cooperative teaching, trends show elementary teachers use supportive cooperative teaching and complementary cooperative teaching at a similar rate. Specifically, 35.71% used supportive cooperative teaching and 42.86% used complementary cooperative teaching at least once each day for instruction. The general frequencies data showed 29.63% used supportive cooperative teaching and 37.04% used complementary cooperative teaching at least once each day. My results align with literature that noted supportive cooperative teaching as an effective model for use with teachers who are new to cooperative teaching (Villa et al., 2008). As the complementary cooperative teaching allows for more individualized instruction with smaller groups of students, this may explain why elementary teachers used the model more frequently (Vaughn et al., 1997). In addition, elementary teachers may have used complementary cooperative teaching more frequently as it allows for increased teacher attention and individualized instruction (Danielson, 2007).

Trends indicate elementary teachers were less likely to share responsibilities for instructional planning than middle grades or secondary teachers. Of the participating elementary teachers, 18.52% disagreed and 7.41% strongly disagreed that the responsibilities

of planning for instruction were shared with their cooperating teacher. This contrasts with the general frequencies data which showed 55.13% agreed and 26.92% strongly agreed that responsibilities for instructional planning were shared. The results suggest that one teacher may have assumed more responsibilities for instructional planning. Results are similar to literature that indicated established responsibilities for planning ensure all responsibilities are not delegated to one person (Brownell & Walther-Thomas, 2002; Gately & Gately, 2001).

Several reasons may exist for inequitable responsibilities in planning for instruction. One reason may be a misunderstanding of the duties of each teacher involved in collaborative teaching (Adams & Cessna, 1991). My results are similar to Bacharach et al.'s (2006) study that showed the roles of each teacher and responsibilities for planning must be addressed to ensure successful collaboration. Also, inadequate time for planning may hinder teachers in ensuring instructional duties are assigned equitably (Dieker & Murawski, 2003; Friend, 2008). This supports Magiera et al.'s (2006) stance that appropriate planning time is a necessary element for successful collaboration. The possibility exists that inequities in instructional planning responsibilities for elementary teachers were affected by challenges related to: (1) a clear understanding of teachers' responsibilities and (2) adequate planning time.

**Special education teachers.** In addition to trends for secondary, middle grades, and elementary teachers, a holistic examination of the data revealed trends in the use of cooperative teaching for special education teachers. For example, trends indicate special education teachers used parallel cooperative teaching and complementary cooperative teaching more frequently. Specifically, 50% used parallel cooperative teaching and 50% used complementary cooperative at least once each day for instruction. The results contrast with

the general frequencies data which showed 24.69% used parallel cooperative teaching and 37.04% used complementary cooperative teaching at least once each day. No literature exists to support why special education teachers used parallel cooperative teaching and complementary cooperative teaching more often.

However, several reasons may exist for the use of parallel cooperative teaching and complementary cooperative teaching by special education teachers. One reason may be the need for students with disabilities to participate in the general education curriculum in the least restrictive environment. The use of cooperative teaching allows collaborating teachers to address IEP goals of special education students while also meeting the instructional needs of other students in the classroom (Friend & Cook, 2010). My results support Darling-Hammond's (1996) stance that collaborative teaching practices are essential for meeting the learning needs of students with disabilities. Another reason may be the instructional design of parallel and complementary cooperative teaching. Both parallel cooperative teaching and complementary cooperative teaching allow for smaller instructional groups. My results support Cook and Friend's (1995) viewpoint that parallel cooperative teaching allows for the separation of students into academically appropriate instructional groups. In addition, complementary cooperative teaching is especially useful for students who need specialized academic or behavioral attention (Villa et al., 2004). My results align with Vaughn et al.'s (1997) stance that complementary cooperative teaching allowed teachers to provide more individualized instruction. The benefits to using parallel cooperative teaching and complementary cooperative teaching noted in the research may have affected the use of cooperative teaching models by special education teachers in my study.

When using cooperative teaching, special education teachers do not have enough time to prepare instructional materials. Specifically, 60% disagreed and 10% strongly disagreed that adequate time was provided to prepare materials for instruction. This contrasts with data for the whole sample which showed 56.41% agreed and 21.79% strongly agreed that adequate time was given for preparation of instructional materials. Results support literature that indicated sufficient time for planning and preparation of materials was important to the use of cooperative teaching (Dieker & Murawski, 2003; Friend, 2008). The availability of time to prepare instructional materials may have affected how often special education teachers used cooperative teaching.

**Limitations of the Study**

There are several limitations that should be noted. One limitation to this study is that data were collected from an identified convenience sample of student teachers at one university selected due to the use of cooperative teaching methods in the teacher education program. Given that teacher education programs vary by university and state, the results cannot be generalized to other universities with teacher education programs; therefore, data results are restricted to the status of cooperative teaching by the identified convenience sample (Allen & Yen, 1979; Thorndike & Dinnel, 2001).

A second limitation is the response rate. Of the 344 student teachers invited to participate in the study, 81 responded, resulting in a response rate of 24%. Pre-notification of the upcoming questionnaire and repeat email reminders to participants were provided in an attempt to increase response rate (Dillman, 2000; Kaplowitz et al., 2004). Research suggested Internet surveys have lower response rates than comparable mail surveys; however, college students are identified as having greater access and familiarity with the Internet (Cooper et

al., 1999; Dillman et al., 1999). Face-to-face administration of questionnaires may have resulted in a higher response rate. A higher response rate would have provided further information about the identified convenience sample's use of cooperative teaching. In addition, student teachers who did not participate in the study may have encountered significantly different experiences with cooperative teaching than those of participants.

A third limitation of the study was the representation across licensure areas. Most participants were seeking licensure in Elementary Education (K-6). Seven areas of licensure had no participants, including (a) Chemistry, Secondary Education (9-12), (b) Child Development, Birth to Kindergarten, (c) Geology, Secondary Education (9-12), (d) Music, Choral Education (K-12), (e) Music, General Music Education (K-12), (f) Physics, Secondary Education (9-12), and (g) Technology, Secondary Education (9-12). Information regarding the actual number of student teachers seeking licensure in each of the licensure areas was not available prior to the study. However, greater participation across licensure areas could have provided a clearer insight into how cooperative teaching is used in different grade levels and subject areas.

A further limitation existed as no data were available on the cooperating teachers. As no data were collected on cooperating teachers, the relationships between student teachers and cooperating teachers cannot be fully understood. Magiera et al. (2006) identified respect and trust as elements necessary for effective co-teaching relationships. Student teachers in this study may have experienced certain issues of trust with cooperating teachers. Stanulis & Russell (1999) proposed the absence of trust between the cooperating teacher and student teacher can greatly affect the student teacher's willingness to take risks and engage in instructional tasks. In addition, Tschannen-Moran's (2005) study suggested teachers were

more likely to collaborate when high levels of trust existed. Trust issues may have influenced student teachers' willingness to participate in cooperative teaching.

**Revisiting the Conceptual Framework**

This section will describe why the selected conceptual framework was appropriate for this study. Also, an explanation as to why the interconnection of the three learning theories with the zone of proximal development offers a suitable conceptual framework for this research study is provided.

The conceptual framework for this study was based on Vygotsky's zone of proximal development. Under a Vygotskan framework, pre-service teachers collaborate with more experienced cooperating teachers to gradually construct knowledge and internalize new concepts and skills (Chaiklin, 2003; Zeichner, 2002). As student teachers practice in authentic settings, they integrate components of university coursework with actual teaching experience to develop appropriate teaching skills (Edwards, 1995; Lortie, 1975). In addition, teaching methodology associated with the zone of proximal development states that individuals learn best when collaborating with more experienced colleagues (Roosevelt, 2008; Vygotsky, 1978).

In addition, three learning theories rooted in Vygotsky's social development theory helped to support pre-service teachers' development from novice to master. Within the zone of proximal development, the emphasis is on moving student teachers forward to the attainment of skills needed for first year teachers. Each learning theory supports student teachers' development. First, the situated-apprentice learning theory explained how student teachers gradually transform from novices to being fully immersed in the practice of teaching, requiring interaction and collaboration with supportive cooperating teachers (Lave

& Wenger, 1991). Also, the critical-constructivist learning theory explained how student teachers and cooperating teachers work collaboratively to share existing ideas and generate new ideas and approaches to teaching (Cochran-Smith & Lytle, 1999; Wang & Odell, 2002). In addition, the humanistic learning theory explained how cooperating teachers provide the emotional support needed for student teachers as they develop confidence in their teaching practice (Enz & Cook, 1992; Gold, 1990).

The three learning theories interconnected with Vygotsky's zone of proximal development to form a holistic, authentic approach to the use of cooperative teaching as a framework for student teaching. Furthermore, a Vygotskan approach to teacher preparation was an appropriate conceptual framework when considering how the use of cooperative teaching could serve as a framework for student teaching (Chaiklin, 2003; Zeichner, 2002).

## Implications

The results of this study are important for both practitioners and researchers. Specifically, university teacher education programs and school districts can improve training and field experiences to better prepare prospective teachers to use cooperative teaching. Further, a number of suggestions for future research are warranted.

**Practical recommendations for teacher education programs.** This study has several implications for teacher education programs at universities. First, universities must provide professional development related to cooperative teaching for all faculty who teach undergraduate courses in pedagogy. Kluth and Straut (2003) noted pre-service teachers were more likely to engage in collaboration if teacher education programs modeled collaborative practices in pre-service courses. In addition, Pugach and Blanton (2009) suggested pre-service teachers must have opportunities to observe and engage in effective collaborative

relationships throughout teacher education programs. Appropriate professional development on the use of cooperative teaching models may help to ensure faculty in teacher education programs model collaborative practices effectively.

In addition to appropriate professional development, teacher education programs must ensure that prospective teachers in all licensure areas experience collaborative practices in pre-service courses. Murray's (2004) study indicated high school teachers had limited training and experience working collaboratively. Similarly, Weiss and Lloyd's (2003) study of middle and high school special education teachers found a need for continued professional development on specific models of cooperative teaching. This suggests that expectations for the use of cooperative teaching were not established prior to student teaching. Ensuring faculty in all licensure areas within the teacher education program receive adequate professional development may assist in preparing pre-service teachers for collaborative classroom instruction.

In considering the use of cooperative teaching, universities must ensure pre-service teachers are provided with clinical experiences in schools that promote collaborative teaching. Kamens (2007) suggested clinical experiences must connect collaborative practices modeled in teacher education programs with practice in authentic settings. In addition, Darling-Hammond and Bransford (2005) called for stronger connections between coursework and clinical experiences. Teacher education programs could stand to improve greatly by selecting only those cooperating teachers who employ cooperative teaching practices to make certain a collaborative teaching framework is used in all clinical experiences. This may assist in ensuring clinical experiences develop the collaborative skills needed for 21$^{st}$ century classrooms.

**Implications for school districts and district leadership.** This study also has implications for school districts and leaders within school districts. First, school districts must ensure cooperating teachers are willing to participate in collaborative relationships with pre-service teachers. Murawski and Dieker (2004) suggested willingness to participate in cooperative teaching resulted in higher compatibility among co-teachers. Conversely, Friend (2007) suggested reluctance to participate in cooperative teaching may result in ineffective relationships between co-teachers. Specific considerations of experienced teachers' willingness to collaborate with pre-service teachers must occur prior to placement. This may help to ensure pre-service teachers are placed in classrooms with cooperating teachers who are committed to working collaboratively. Leaders within school districts should consider how cooperating teachers are selected for collaborative work with student teachers, ensuring that cooperating teachers volunteer for this work rather than being told they must participate.

In addition, school districts must ensure all cooperating teachers have received appropriate professional development in the use of cooperative teaching. Gately and Gately (2001) noted professional development sessions assisted co-teachers in identifying how collaboration increased instructional proficiencies. Also, research suggested clinical experience placements with appropriately trained cooperating teachers assisted pre-service teachers in developing collaborative practices (Ball, 2000; Nilssen, 2010; Yendel-Hoppey, 2007; Zembal-Saul et al., 2002). Moreover, Friend (2008) suggested consideration must be made in placing student teachers with cooperating teachers trained in cooperative teaching methods. The results from this study suggest that current professional development for cooperating teachers on specific cooperative teaching models is not adequate. School districts must work with universities to provide continued professional development sessions for

cooperating teachers on the effective use of cooperative teaching. Multiple professional development sessions prior to and during clinical experiences may assist cooperating teachers with proper implementation of cooperative teaching. In addition, district leaders must work to fund professional development sessions and provide ongoing support to cooperating teachers to ensure cooperative teaching models are used effectively.

School districts must also ensure administrators are supportive of collaboration. Specifically, collaborative practices must be promoted with all teachers, not just those involved in cooperative relationships with pre-service teachers. Scruggs et al. (2007) suggested administrative support was a necessary component in successful cooperative teaching relationships. Furthermore, Friend (2008) proposed administrators provide appropriate information on cooperative teaching. As the administrator's philosophy on cooperative teaching can influence teacher's behaviors, supportive administration may directly affect the success of collaboration among co-teachers.

In addition to providing appropriate professional development and seeking volunteers for co-teaching, administrators can show their support by promoting an atmosphere supportive of cooperative teaching. Administrators should ensure additional supports are in place to encourage the use of cooperative teaching, including common planning time and assistance with scheduling. Further, administrators should involve teachers in the decision-making process regarding the use of cooperative teaching. Through shared leadership, the school can become a place where (1) teachers value and use cooperative teaching models, (2) teachers work collaboratively to meet the needs of all students, and (3) students see collaborative practices modeled by teachers.

**Recommendations for Further Research**

Further research on cooperative teaching may be influenced by this study. One recommendation for further research is a longitudinal study of the use of cooperative teaching by pre-service teachers throughout the teacher education program. This study was limited to a single collection of data during the mid-point of the student teaching experience. A longitudinal study could provide further insight as to whether cooperative teaching is being modeled and used consistently in pre-service coursework and all clinical experiences.

A second recommendation for further research is the completion of a study with a larger random group sample. As this study was completed with an identified convenience sample of practicing student teachers, the results of this study are not representative of the entire population of student teachers, but are limited to the identified convenience sample. A larger group sample size may provide a more definitive description of the current use of cooperative teaching models during the student teaching experience.

A third recommendation for further research is the replication of this study in other settings. Participants for this study were taken from a convenience sample of student teachers at a university with a teacher education program in the Southeast. If similar results are found at other universities with teacher education programs, this study will gain external validity.

A fourth recommendation for further research is to examine the professional development provided to cooperating teachers participating in collaborative relationships with pre-service teachers. Further investigation of professional development may assist in ensuring appropriate training is provided on specific cooperative teaching models. This research may also help to ensure all teachers are prepared to work collaboratively.

A fifth recommendation for further research is to examine cooperating teachers' viewpoint of the use of cooperative teaching. Questionnaires and/or interviews could provide additional information on cooperating teachers. This information may include how cooperating teachers are selected for collaborative work, types of professional development provided, and specific supports and/or barriers to the use of cooperative teaching.

A sixth recommendation for further research is to examine why certain cooperative teaching models are used more frequently at specific grade levels. Open-ended questions and/or interviews may provide additional insight on why some models are favored for use in elementary, middle grades, or secondary classrooms.

A seventh recommendation for further research is to examine why special education teachers use parallel cooperative teaching and complementary cooperative teaching more often. A qualitative study on the practices of special education teachers use of cooperative teaching may provide further insight as to why parallel cooperative teaching and complementary cooperative teaching were favored.

Each of the recommendations for further research may help to enhance understanding of the use of cooperative teaching. In addition, further research may help to identify why specific cooperative teaching models are selected for use. Furthermore, this research may assist universities considering cooperative teaching as a framework for student teaching experiences.

**Concluding Remarks**

Although the results of this study cannot be generalized to other universities using cooperative teaching as a framework for student teaching, the study is important for several reasons. First, this study adds to the literature on the use of cooperative teaching as a

framework for the capstone student teaching experience. Prior research on the cooperative teaching models used during student teaching usually focused on outcomes for students in the classroom. This study was among the first to gather data on which cooperative teaching models are used most frequently by student teachers. It also identified the source of knowledge of cooperative teaching models and supports and barriers to the use of co-teaching during student teaching. Second, this study revealed the inconsistency in the use of specific types of cooperative teaching models by practicing student teachers. Supportive cooperative teaching was used more frequently than parallel cooperative teaching or complementary cooperative teaching. Further studies may chose to examine whether this disparity is more prevalent at specific grade levels or content areas. Third, this study revealed student teachers' perceived supports and barriers to the use of cooperative teaching models. Prior research identified specific supports and barriers to the use of cooperative teaching, but did not investigate their presence or absence during the student teaching experience.

Based on the results of this study, I conclude that cooperative teaching is not being emphasized enough in the teacher education program. To ensure that the next generation of teachers is prepared to work collaboratively to meet the needs of all students, experiences must be provided throughout the teacher education program to observe and participate in cooperative teaching. This collaborative work is especially important, as the current accountability model often pushes teachers apart, sparking competition rather than cooperation. It is the hope of this author that this approach will prove useful to others interested in exploring similar studies or pursuing recommendations for further research on the use of cooperative teaching as a framework for student teaching.

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## Appendix A - Cooperative Teaching Models Questionnaire

The purpose of this questionnaire is to identify practices that support or hinder the use of cooperative teaching models. Your participation is voluntary. Your responses will be kept strictly confidential, no identifiers will be used, and all responses will be presented as aggregate data.

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Definition of Terms

**Cooperative Teaching Models** – Cooperative teaching models consist of two or more professional educators engaged in the delivery of instruction to a diverse group of students in a single classroom. For the purpose of this study, cooperative teaching models involve a student teacher and cooperating teacher sharing the physical space of a classroom to deliver instruction to groups of students.

**Student Teacher** – A student teacher is a student enrolled in an approved institution of higher learning who is assigned to teach in a school under the supervision of a certified teacher.

**Cooperating Teacher** – A cooperating teacher is a certified educator who guides and supports pre-service teachers during the student teaching experience, acts as a mentor to student teachers and works cooperatively with student teachers to plan, model, and reflect on instructional practices.

**General Education Teacher** – A general education teacher is any teacher certified to provide instruction in the elementary, middle, or secondary classroom. Secondary general education teachers have specific subject area certification.

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## PART ONE

## Current Experience with Cooperative Teaching Models

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This study examines three models of cooperative teaching: (a) supportive cooperative teaching, (b) parallel cooperative teaching, and (c) complementary cooperative teaching. All models rely on the collaboration of co-teachers to share responsibilities for planning, instruction, classroom management, and assessment of heterogeneous groups of students in a single classroom (Bauwens et al., 1989; Cook & Friend, 1995; Sands, Kozleski, and French, 2000; Villa et al., 2004). Please refer to the following descriptions of the cooperative teaching models when responding to questions in this part of the survey.

**Model 1: Supportive Cooperative Teaching***:* Both teachers are present in the classroom, with one teacher assuming the lead in delivering instruction. The other teacher observes and assists students as needed. Roles may change during instruction.

**Model 2: Parallel Cooperative Teaching**: Teachers plan instruction together, then divide the class and deliver the instruction. Teachers may deliver the same instruction to small groups or small groups of students may rotate to various stations in the classroom. Each teacher assumes responsibility for planning and instructing a portion of the content.

**Model 3: Complementary Cooperative Teaching**: One teacher maintains responsibility for instructing the larger group, while the other teacher works with a smaller group to pre-teach, re-teach, or supplement regular instruction. The smaller group can work inside or outside of the regular classroom.

1. Regarding frequency of use, how often do you use:

   Model 1: Supportive Cooperative Teaching

   - Every lesson every day – 100% of the time
   - All but one lesson each day – 75% - 90% of the time
   - At least half of each day – 50% - 74% of the time
   - At least once each day – 14% - 49% of the time
   - Four times a week
   - Three times a week
   - Two times a week
   - Once a week
   - Once every two weeks
   - Once every three weeks
   - Once every month
   - Never

   Model 2: Parallel Cooperative Teaching

   - Every lesson every day – 100% of the time
   - All but one lesson each day – 75% - 90% of the time
   - At least half of each day – 50% - 74% of the time
   - At least once each day – 14% - 49% of the time
   - Four times a week
   - Three times a week
   - Two times a week
   - Once a week
   - Once every two weeks
   - Once every three weeks
   - Once every month
   - Never

   Model 3: Complementary Cooperative Teaching

   - Every lesson every day – 100% of the time
   - All but one lesson each day – 75% - 90% of the time
   - At least half of each day – 50% - 74% of the time
   - At least once each day – 14% - 49% of the time
   - Four times a week
   - Three times a week
   - Two times a week
   - Once a week
   - Once every two weeks
   - Once every three weeks
   - Once every month

- Never

2. I have encountered cooperative teaching models in (select all that apply):

    - Student teaching
    - Early field experiences
    - Methods courses / other content specific teaching courses
    - Observations in schools
    - Previous school experiences
    - Other _____

Please select a number from 1 to 4 to indicate your level of agreement or disagreement with each statement below about cooperative teaching models.

| Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|
| 4 | 3 | 2 | 1 |

| | | | | | |
|---|---|---|---|---|---|
| 1. | My cooperating teacher and I work well together. | 4 | 3 | 2 | 1 |
| 2. | Classroom management responsibilities are shared. | 4 | 3 | 2 | 1 |
| 3. | Roles and responsibilities for each teacher are clearly defined. | 4 | 3 | 2 | 1 |
| 4. | My cooperating teacher and I have frequent discussions about the use of cooperative teaching models. | 4 | 3 | 2 | 1 |
| 5. | My cooperating teacher and I have a similar teaching philosophy. | 4 | 3 | 2 | 1 |
| 6. | My cooperating teacher and I have complementary teaching styles. | 4 | 3 | 2 | 1 |
| 7. | Cooperative teaching is part of our scheduled instruction. | 4 | 3 | 2 | 1 |
| 8. | Students are receptive to the use of cooperative teaching models during classroom instruction. | 4 | 3 | 2 | 1 |
| 9. | I feel comfortable providing instruction in a classroom using cooperative teaching. | 4 | 3 | 2 | 1 |
| 10. | My cooperating teacher and I agree on the instructional goals of the co-taught classroom. | 4 | 3 | 2 | 1 |
| 11. | All materials are shared in the classroom. | 4 | 3 | 2 | 1 |
| 12. | Changes can occur during instructional lessons if needed to accommodate students' needs. | 4 | 3 | 2 | 1 |
| 13. | My cooperating teacher and I share responsibilities of planning for instruction. | 4 | 3 | 2 | 1 |
| 14. | Students view my cooperating teacher as the "real" teacher. | 4 | 3 | 2 | 1 |
| 15. | Communication with my cooperating teacher is open and honest. | 4 | 3 | 2 | 1 |
| 16. | There is a fluid exchange of responsibilities between my cooperating teacher and me. | 4 | 3 | 2 | 1 |

| | | | | |
|---|---|---|---|---|
| 17. Students accept both teachers as equal partners in the classroom. | 4 | 3 | 2 | 1 |
| 18. All students are monitored during co-taught lessons. | 4 | 3 | 2 | 1 |
| 19. Students' learning styles are considered when planning for instruction using cooperative teaching models. | 4 | 3 | 2 | 1 |
| 20. Students are provided with opportunities to interact during co-taught lessons. | 4 | 3 | 2 | 1 |
| 21. My cooperating teacher and I consider specific academic and behavioral needs when planning for instruction. | 4 | 3 | 2 | 1 |
| 22. Modifications and accommodations for students are provided during the use of cooperative teaching models. | 4 | 3 | 2 | 1 |
| 23. Routines for using cooperative teaching models have been jointly developed. | 4 | 3 | 2 | 1 |
| 24. My cooperating teacher and I are both present in the classroom when cooperative teaching models are used. | 4 | 3 | 2 | 1 |
| 25. My ideas for using cooperative teaching models in instruction are accepted by my cooperating teacher. | 4 | 3 | 2 | 1 |
| 26. My cooperating teacher and I experiment with different cooperative teaching models. | 4 | 3 | 2 | 1 |
| 27. Research-based strategies are used during co-taught lessons. | 4 | 3 | 2 | 1 |
| 28. Both teachers have an active role in classroom instruction. | 4 | 3 | 2 | 1 |
| 29. Strengths of each teacher are considered when planning for instruction. | 4 | 3 | 2 | 1 |
| 30. Both teachers talk during co-taught instruction. | 4 | 3 | 2 | 1 |
| 31. Problems that arise in the classroom are addressed by both teachers. | 4 | 3 | 2 | 1 |
| 32. I feel comfortable voicing my concerns to my cooperating teacher. | 4 | 3 | 2 | 1 |
| 33. Instruction is significantly different when cooperative teaching models are used. | 4 | 3 | 2 | 1 |
| 34. My cooperating teacher appears comfortable with my presence in the classroom. | 4 | 3 | 2 | 1 |
| 35. I feel comfortable giving directions or permission to students without checking with my cooperating teacher. | 4 | 3 | 2 | 1 |
| 36. The use of cooperative teaching models is expected during my student teaching experience. | 4 | 3 | 2 | 1 |
| 37. Co-teaching helps me to become a better teacher. | 4 | 3 | 2 | 1 |

## PART TWO

### Supports/Barriers to The Use of Cooperative Teaching Models

Please select a number from 1 to 4 to indicate your level of agreement or disagreement with each statement about supports/barriers of cooperative teaching.

| Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|
| 4 | 3 | 2 | 1 |

| | | | | |
|---|---|---|---|---|
| 38. Daily planning time is provided with my cooperating teacher. | 4 | 3 | 2 | 1 |
| 39. Administration is supportive of cooperative teaching. | 4 | 3 | 2 | 1 |
| 40. The school climate supports the use of cooperative teaching. | 4 | 3 | 2 | 1 |
| 41. Cooperating teachers are provided with professional development on cooperative teaching methods. | 4 | 3 | 2 | 1 |
| 42. Cooperating teachers volunteer to use cooperative teaching models. | 4 | 3 | 2 | 1 |
| 43. Classroom responsibilities, such as delivering instruction and assessment, are shared equally. | 4 | 3 | 2 | 1 |
| 44. Adequate time is provided to prepare materials for instruction. | 4 | 3 | 2 | 1 |
| 45. Communication with my cooperating teacher is ongoing and honest. | 4 | 3 | 2 | 1 |
| 46. My cooperating teacher encourages the use of cooperative teaching models. | 4 | 3 | 2 | 1 |
| 47. Pre-service courses prepared me to use cooperative teaching models. | 4 | 3 | 2 | 1 |
| 48. The university supports my use of cooperative teaching models. | 4 | 3 | 2 | 1 |
| 49. The grade level of my student teaching placement is conducive to the use of cooperative teaching models. | 4 | 3 | 2 | 1 |
| 50. The content area of my student teaching placement is conducive to the use of cooperative teaching models. | 4 | 3 | 2 | 1 |

**PART THREE**

**Student Teacher Information**

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1. Gender

    - Female
    - Male

2. Race / Ethnicity

    - American Indian / Alaska Native
    - Asian
    - Black / African American
    - Hispanic / Latino
    - Multi-Racial
    - Pacific Islander
    - White / Caucasian

3. Age

    - 20-25
    - 26-30
    - 31-35
    - 36-40
    - 41+

4. Other experiences in education (other than experiences provided by your teacher education program)

    - Paid tutor
    - Volunteer tutor
    - Teacher assistant
    - Other _____

5. Parents in the education profession

    - Yes
    - No

6. Area of licensure

    - Art Education (K-12)
    - Biology, Secondary Education (K-12)
    - Chemistry, Secondary Education (9-12)

- Child Development, Birth through Kindergarten
- Elementary Education (K-6)
- English, Secondary Education (K-12)
- Family and Consumer Sciences, Secondary Education (9-12)
- Geology, Secondary Education (9-12)
- Health Education, Secondary Education (9-12)
- History, Social Studies Education
- Mathematics, Secondary Education (9-12)
- Middle Grades Education, Language Arts and Mathematics (6-9)
- Middle Grades Education, Language Arts and Science (6-9)
- Middle Grades Education, Language Arts and Social Studies (6-9)
- Middle Grades Education, Mathematics and Science (6-9)
- Middle Grades Education, Mathematics and Social Studies (6-9)
- Middle Grades Education, Science and Social Studies (6-9)
- Music Education, Choral Music Education (K-12)
- Music Education, General Music Education (K-12)
- Music Education, Instrumental Music Education (K-12)
- Physical Education Teacher Education (K-12)
- Physics, Secondary Education (9-12)
- Spanish, Education (K-12)
- Special Education Adaptive Curriculum (K-12)
- Special Education General Curriculum (K-12)
- Theatre Arts (K-12)
- Technology Education, Secondary Education (9-12)

7. Check the content area(s) of the class(es) that you teach using cooperative teaching models.

   - Reading
   - Mathematics
   - Science
   - Social Studies
   - English / Language Arts
   - Fine Arts
   - Physical Education / Health
   - Foreign Language
   - Business
   - Technology
   - ELL / Bilingual
   - Family / Consumer Sciences
   - Agricultural Education
   - Other: _____ (please specify)

## Appendix B – Eliminated Questionnaire Items

| | | | | |
|---|---|---|---|---|
| 1. My cooperating teacher and I solicit each other's feedback and benefit from it. | 4 | 3 | 2 | 1 |
| 2. Classroom instruction is shared. | 4 | 3 | 2 | 1 |
| 3. My instructional abilities have been improved. | 4 | 3 | 2 | 1 |
| 4. Nonverbal clues of my cooperating teacher are easy to read when using cooperative teaching. | 4 | 3 | 2 | 1 |
| 5. Behavior management is a shared responsibility. | 4 | 3 | 2 | 1 |
| 6. Both teachers work with all students in the classroom. | 4 | 3 | 2 | 1 |
| 7. Goals for all students are considered when planning for instruction. | 4 | 3 | 2 | 1 |
| 8. Students are heterogeneously grouped by mixed abilities and/or interests when using cooperative teaching models. | 4 | 3 | 2 | 1 |
| 9. Teachers' strengths are considered when differentiating instruction. | 4 | 3 | 2 | 1 |
| 10. Lower level students are always grouped together when cooperative teaching models are used. | 4 | 3 | 2 | 1 |
| 11. The noise level in the classroom is high when cooperative teaching models are used. | 4 | 3 | 2 | 1 |
| 12. Students are grouped in the classroom in a way that makes co-teaching feasible. | 4 | 3 | 2 | 1 |
| 13. Responsibilities for grading and assessment are shared. | 4 | 3 | 2 | 1 |
| 14. Student progress is assessed on an ongoing basis. | 4 | 3 | 2 | 1 |
| 15. My cooperating teacher and I have a good rapport. | 4 | 3 | 2 | 1 |
| 16. My cooperating teacher appears reluctant to use cooperative teaching models during instruction. | 4 | 3 | 2 | 1 |
| 17. The use of cooperative teaching models has a positive impact on students' learning. | 4 | 3 | 2 | 1 |
| 18. Co-teaching allows me to take risks during instruction. | 4 | 3 | 2 | 1 |
| 19. Adequate teaching materials and supplies are available for diverse learning levels. | 4 | 3 | 2 | 1 |
| 20. Students are receptive to cooperative teaching models. | 4 | 3 | 2 | 1 |
| 21. My cooperating teacher often asks me to complete clerical duties (copying, grading papers) instead of delivering instruction. | 4 | 3 | 2 | 1 |

## Vita

Jennie McGuire was born in North Wilkesboro, North Carolina on August 27, 1972. She attended elementary and high school in Hays, North Carolina, graduating from North Wilkes High School in 1990. She entered Appalachian State University as a North Carolina Teaching Fellow in August 1990. There, she studied elementary education. In December 1994 she was awarded the Bachelor of Arts degree. In April 2002 she received National Board Certification in the Middle Childhood Generalist area. Subsequently, she enrolled and completed a Master of Arts degree in Curriculum Specialist at Appalachian State University in May 2004. In July 2007, she enrolled in the doctoral program at Appalachian State University and in December 2013 she earned her Ed.D. degree in Educational Leadership and add-on licensure in school administration.

Mrs. McGuire has worked as an elementary school teacher for nineteen years. She is currently employed with the Wilkes County School District, teaching at Ronda-Clingman Elementary School. While teaching, Mrs. McGuire has received numerous awards, including Ronda-Clingman Elementary School's Teacher of the Year in 2003 and Wilkes County Schools' Teacher of the Year in 2003. Throughout her career, she has received more than $50,000 in grant funding for her school and classroom. In addition, Mrs. McGuire is a current Kenan Fellow, working with leaders from the North Carolina Department of Public Instruction to create English Language Arts units integrated with Science standards. Mrs. McGuire is married to Dan McGuire and has four children, Brandon, Kristian, Carson, and Katheryn.