

A Study of Co-Teaching Identifying Effective Implementation Strategies

Joanna Brendle,

(janna.brendle@ttu.edu),

Robert Lock,

Texas Tech University, PO Box 41071,

Lubbock, TX 79409

Kate Piazza,

Texas Tech University, 26722 Crossroads Trail,

Huffman, TX, 77336

Abstract

Co-teaching models have been established in research as an instructional delivery method to provide instruction to diverse students in an inclusive general education setting. Research of inclusive classrooms where general education and special education teachers co-instruct indicates learning for students with learning disabilities (LD) is improved (Cramer, Liston, Nevin & Thousand, 2010). Co-teaching models have been addressed in the literature, however, responsibilities of general and special education teachers regarding co-planning, co-instruction and co-assessing to implement co-teaching effectively requires further investigation (Mastropieri et al., 2005). This qualitative study investigated two co-taught elementary classrooms. The case study examined information from teachers in reading and math co-taught classrooms to document method of implementation and to gain insight into participants' knowledge and perceptions of co-teaching. Information was gathered from two elementary general education and two elementary special education teachers concerning co-teaching roles, collaborative, instruction, and assessment. Data were gathered utilizing interviews,

rating scales, and classroom observations. The experience of elementary co-teachers in co-taught classrooms provided descriptive data allowing examination and analysis of co-teachers' knowledge, perceptions and implementation of co-teaching. Results indicate teachers lack expertise in implementing collaborative co-planning, co-instructing and co-assessing to effectively implement co-teaching. The study identified recommendations for administrative support and teacher training.

Keywords: *co-teaching, students with learning disabilities*

Introduction

The Individuals with Disabilities Education Act (IDEA) (2004) mandated that students with disabilities be given access to, be involved in, and make progress in the general education curriculum. In addition, the National Center for Learning Disabilities (NCLD) supported the charge of ensuring students with disabilities access to the general education curriculum through advocating for research-based strategies and accountability (Cramer, Liston, Nevin, & Thousand, 2010). Co-teaching was not required as a method of instruction by this legislation, however, growing accountability for teachers to increase the performance of students in the classroom, to produce students prepared for postsecondary placement, and to provide instruction to diverse students elevated co-teaching as a strategy to assist in meeting these goals. Requiring teachers to cover the core curriculum and to guarantee students are acquiring the content has led to implementing strategies such as co-teaching in general education classrooms (Vaughn & Bos, 2015). Research in secondary schools supports co-instruction as an effective method for teachers to provide a diversified classroom with engaging and differentiated instruction (Murawski & Lochner, 2010), however, there are a limited number of co-teaching research studies that focused on elementary schools (Tremblay, 2013). This article describes a study of an elementary school's implementation of co-teaching based on teacher rating scales, interviews and classroom observations.

In 2015, the U.S. Department of Education reported 63 percent of students receiving special education services spent 80 percent of the school day in general education classes, versus 58 percent in 2009 (Wu, 2012; Digest of Education Statistics, 2015). According to the

Annual Disability Statistics Compendium report (2015), 86.4% of special education students in Texas ages 6 to 21 were served more than 40 percent of the instructional day in a general education setting. As students' with disabilities placement in the general education classrooms increase, effective instructional practices require teachers to support all student needs for positive achievement results (McLeskey, Landers, Hoppey & Williamson, 2011). Placing students with disabilities in general education classrooms where teachers are expected to cover the core curriculum and ensure all students are acquiring the content has resulted in schools turning to the current research to implement supportive instructional strategies such as co-teaching in general education classrooms (Vaughn & Bos, 2015). Co-teaching research has identified successful methods of implementing co-teaching within their classrooms (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Kim, Woodruff, Klein, & Vaughn, 2006; Kohler-Evans, 2006; Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005; Murawski & Lochner, 2010; Ploessl, Rock, Schoenfield, & Blanks, 2010; Rea & Connell, 2005; Thousand, Villa, & Nevin, 2006). Consequently, co-teaching has been met with considerable support from schools as a successful instructional method incorporating partnerships among general and special educators to meet the needs of special education students (Murawski & Lochner, 2010).

The high level of expectation for students with disabilities to be served in the least restrictive environment in a general education setting has resulted in public schools implementing co-teaching strategies based on the research indicating positive results of the co-teach model as a key component to enhance success for all students in general education classrooms (Cramer et al., 2010; Murawski & Lochner, 2010). Co-teaching embraces student individuality allowing students with different learning styles and needs to receive instruction in a general education classroom. All students benefit from additional instructional support from two teachers in addition to increased involvement and enrichment of students with disabilities in the general education classroom (Mastropieri et al., 2005).

Co-Teaching

Co-teaching models have been widely discussed in the literature, however, exact responsibilities of general and special education teachers in a co-teaching setting and the appropriate way to measure effective co-teaching require further investigation (Mastropieri et al., 2005). Friend (2008) defines co-teaching as a general education teacher and special education teacher providing instruction to general and special education students in a general education classroom. Research supports findings that instruction has improved with general education and special education teachers educating students in one classroom and supplementing with aids and services to students with disabilities (Cramer et al., 2010).

Research describes the following co-teaching methods, noting that one approach is not more appropriate than the other, instead teachers should determine the instructional model dependent upon the content to be taught (Friend, 2008; Thousand et al., 2006). Both Thousand et al. (2006) and Friend (2008) identified co-teaching models with similar strategies, however, for this study, this school attempted to implement the Friend & Bursuck (2009) model based on some limited prior teacher training.

Friend and Bursuck (2009) defined the research-based co-teaching models. These models include: 1) one teach, one observe involves one of the co-teachers leading large-group instruction while the other teacher gathers academic, behavioral, or social data on specific students or the class group; 2) station teaching involves dividing students into three groups and rotating the groups from station to station taught by the co-teachers at two stations and working independently at the third; 3) parallel teaching requires each of the co-teachers to instruct half of the students presenting the same lesson in order to provide instructional differentiation and increased student participation; 4) alternative teaching involves one teacher providing instruction to the majority of students while the other teacher works with a small group for remediation, enrichment or assessment; 5) teaming requires the co-teachers lead large-group instruction by both lecturing, representing different viewpoints and multiple methods of solving problems; and 6) one teach, one assist, also identified as supportive teaching, involves one co-teacher leading instruction while the other teacher circulates among the students providing individual assistance (Friend & Bursuck, 2009). Supportive teaching and parallel teaching were identified as the most widely used co-teaching models because they require less organization and collaboration (Friend & Bursuck, 2009; Thousand, Villa, & Nevin, 2006). Scruggs et al. (2007) reported the one teacher, one assist model was most frequently implemented in elementary classrooms.

In order to experience positive results implementing models of co-teaching, research there are crucial steps within the models requiring effective collaboration utilizing both the general and special education teacher strengths (Rea & Connell, 2005). Research suggests,

teachers not only require expert knowledge of the co-teach models, the co-teachers must obtain skills in the ability to collaborate to implement the research-based co-teaching models through effective co-planning, co-instructing, and co-assessing (Murawski & Lochner, 2010). Co-planning requires teachers to create lesson plans together and determine the appropriate accommodations and modifications for special education students. Co-instructing requires teachers to implement the best delivery model for co-teaching the content. Co-assessing requires teachers to work together to provide appropriate assessments to monitor progress of both the general and special education students.

Co-planning is the initial step to effective co-teaching and is essential to ensure co-teachers delineate their roles and method of co-teaching instruction to best meet the lesson goals. (Murawski & Lochner, 2010; Ploessl et al., 2010). To accomplish this in a busy schedule, teachers may plan via technology tools such as Skype or other meeting media outlets utilizing an agenda to ensure an efficient use of time. Most importantly, lesson plans should be designed by co-teachers to determine the delivery model (Ploessl et al., 2010). Co-planning assures both teachers understand their roles and responsibilities regarding each lesson prior to co-instructing in the classroom. Co-instructing involves teachers providing the instruction based on the most appropriate co-teaching model that aligns with the curriculum requirements and student needs. Co-instruction is the responsibility of both teachers and can only be accomplished after careful co-planning to establish a clear understanding of the instructional goal and appropriate co-teach model. Formative and summative assessment must be included in the co-planning and co-instructing steps to determine student progress. The general and special education teacher both assess student progress routinely regardless of the planned method of co-instruction. During the planning step, the method of assessment is determined to monitor student progress. Implementing these components in co-teaching provides a supportive and engaging learning environment for both general and special education students (Ploessl et al., 2010).

Current research reflects the best practices for models of co-teaching and even though extensive research has led to the use of co-teaching in classrooms, an understanding of how co-teachers are implementing the strategies in the classroom is relevant to providing improved teacher and student support (Mastropieri et al., 2005). This study of co-teachers and their strategies utilized to implement co-teaching will facilitate efforts to better understand and improve co-teaching practices. This study and data analysis provides further insight into the collaborative effort of co-teachers and the extent co-planning, co-instructing and co-assessing are integrated into the co-teaching models utilized in elementary classrooms.

Method

This qualitative descriptive case study investigated two co-taught elementary classrooms. The case study examined information from teachers in reading and math classrooms to gain insight into participants' knowledge and perceptions of co-teaching. Information was gathered from two elementary general education and two elementary special education teachers concerning co-teaching roles and collaborative planning, instruction and assessment using interviews, a rating scale, and classroom observations. The experience of elementary co-teachers in co-teach classrooms provided descriptive data allowing examination and analysis of co-teachers' knowledge, perceptions and implementation of co-teaching to address the following questions: 1) How do co-teachers implement research-based co-teach models and collaborative strategies? 2) How are teacher roles reflected in the co-teaching

partnership? 3) How does administrative support for implementing co-teaching impact co-teachers?

A rating scale, interview, and classroom observation of the participants were the data sources. The qualitative rating scale survey was used to glean practical and relevant information instead of a quantitative rating scale due to the small sample size (Jensen, 2010; Kelley, Clark, Brown, & Sitzia, 2003). Semi-structured interviews allowed for the researcher to gain in-depth knowledge of teacher perceptions of co-teaching from the open-ended questions asked (DiCicco-Bloom & Crabtree, 2006; Hoepfl, 1997). The observation viewed participants delivering instruction in a co-teach classroom (Hoepfl, 1997). Themes and subthemes were identified from the rating scales, interviews and observations to determine if teachers' practices reflected their knowledge and conversations regarding co-teaching.

Participants and Setting

The participants consisted of one special education teacher and one general education teacher from the fourth grade mathematics classroom and one special education teacher and one general education teachers from the fifth grade reading classroom. The setting was a fourth and fifth grade elementary school with a total student population of 573. The school principal disseminated the recruitment letter and description of the study to teachers implementing co-teaching in the reading and math classrooms. The teachers willing to participate in the study contacted the researcher via email. Two general education teachers responded and two special education teachers responded to the email. This resulted in two sets of co-teaching partners, one from a fifth grade reading classroom and one from a fourth grade mathematics classroom. The participants chose pseudonyms to ensure anonymity.

The fourth grade math co-teachers were Cindy and Christi. Cindy was a fourth grade general education mathematics and science teacher. She co-taught with Christi in mathematics for one class. At the time of this study, she had taught at the school for twelve years, five of those years were with a co-teaching partner or special education aide. Christi was a fourth grade special education teacher. She co-taught a mathematics class with Cindy. She had taught for eight years. Cindy and Christi taught math to three special education students and eighteen general education students in a co-teaching setting.

The fifth grade reading co-teachers were Sue and Michelle. Sue was a fifth grade general education reading teacher. At the time of this study, she had taught 13 years with some co-teaching experience and had worked with special education inclusion aides in the past. Sue co-taught with Michelle for one reading class. Michelle was a fifth grade special education teacher with five years' experience in special education and one year experience co-teaching. Sue and Michelle taught reading to six special education students and sixteen general education students in a co-teach setting.

The qualitative descriptive case study included the results of data collected from the 47 question rating scale, 23 question semi-structured interview, two open-ended question post interview, and classroom observations during the spring semester. The teacher rating scale was adapted from a previous study from Shankland (2011) with permission and was emailed with a letter requesting the participation in the study. The rating scale questions consisted of nine categories related to roles of co-teachers, planning, instruction and administrative supports. The Likert-type scale rated answers based on the following response choices: 1-rarely (one time or less per semester), 2-seldom (once per month), 3-sometimes (once every

two weeks), 4-fairly often (one time per week), and 5-frequently (two or more times per week). The software NVivo, a qualitative analysis tool, was used to code and analyze the data. After reviewing each part of the rating scale as it related to the research questions, category names were added to NVivo. As the categories were reviewed, themes emerged that were determined to be related to the interview and classroom observation.

The interviews were 20 to 40 minutes in duration and consisted of 23 questions. The interview was adapted from a previous study from Shankland (2011) with permission. The questions focused on general questions of prior experiences in co-teaching regarding planning, instruction, assessment and administrative support. The post-interview, after the classroom observation, consisted of two open ended questions to allow for clarification of questions that arose during observation or data analysis. The interviews were transcribed and coded utilizing the software, NVivo, to develop ideas related to the research questions by the use of coding of relationships with categories and concepts (Walker & Myrick, 2006). Names of themes and patterns were identified as the data were separated into manageable parts using an audit trail (Hopefl, 1997). Axial coding was used to ensure accuracy as it related to the themes and to explore the relationship between the categories (Hopefl, 1997).

The classroom observations documented teacher instructional roles and identified the co-teach models utilized during instruction. The observer documented instructional tools such as strategies and accommodations/modifications provided to students and co-teacher interaction. Classroom observations were analyzed to determine the collaboration in the classroom using the themes from the rating scale and the interviews using NVivo software. Observation notes were reviewed to identify themes that emerged related to the rating scales and interviews to triangulate the data.

Trustworthiness and Transferability

Trustworthiness was addressed based on credibility, transferability, dependability and confirmability (Shenton, 2004). Credibility was determined by using data collection and data analysis methods established as successful in research (Berg, 2001; Shenton, 2004). Triangulation of three data collection methods including an interview, a rating scale, and a classroom observation was used to ensure multiple data collection methods were implemented and to relate the different forms of data findings. Honesty in informants was established by allowing informants to refuse participation in the project, establishing rapport with interviewees, encouraging participants to be forthcoming with their responses (Shenton, 2004).

Transferability was addressed by identifying the school setting and description of the teachers who contributed data. The data collection methods included number and length of the interviews, rating scale and observation during the spring school semester (Shenton, 2004). Dependability was established by the previous researcher who developed and piloted the rating scale, interview, and classroom observation rubric Shankland (2011). The survey, *Supporting Access to the General Education Curriculum Survey* was developed by reviewing published surveys, checklists, and questionnaires (Shankland, 2011). The semi-structured interviews were developed and piloted by Shankland (2011) to include three sections, information about the classroom, planning, instruction, and administrative supports. The classroom observation rubric was developed and piloted to document teacher and student participation in a co-taught classroom (Shankland, 2011). Confirmability was ensured by the steps taken to report the exact teachers' responses (Shenton, 2004). An audit trail was created to ensure the steps used and decisions made in this research were traced. Information from

recommendations were provided by creating a flow throughout the data coded to create themes that led to recommendations (Shenton, 2004).

Results and Interpretation

The following interpretation describes how the data collected from the rating scales, interviews and observations addressed the research questions.

Research question one asked, “How do co-teachers implement research-based co-teach models and strategies?” Research-based practices for co-teaching and the components required to implement the models including co-planning, co-instructing and co-assessing were discussed in the co-teaching topic previously. Themes identified in the data analysis related to the research-based practices were co-teaching models utilized by teachers, teacher collaboration and teacher co-planning.

Important to note is the report of teachers in the rating scale and interview regarding their lack of knowledge of co-teaching models and best practices in implementing the models for the appropriate lesson. Teachers reported in the rating scales sometimes using co-teach models to present the lessons and they often collaborated to modify lesson plans to increase accessibility for students with disabilities. However, the teacher indicate they rarely planned or implemented the appropriate co-teach model as described in research required for effective results. All co-teachers reported implementing small group or individual instruction that had been previously planned or determined during class as needed for student re-teach or remediation.

Even though neither set of co-teachers identified the co-teach model for instruction, it was noted during the classroom observations that Cindy and Christi implemented the parallel co-teaching model by both participating in the lecture illustrating the content taught by both teachers to the whole group. In Sue and Michelle’s classroom observation, the general education teacher (Sue) led instruction while the special education teacher (Michelle) supported individual students as needed indicating a one-teach, one assist strategy was implemented.

Murawski and Lochner (2010) reported best practice for collaboration includes co-planning, co-instructing, and co-assessing. The teachers indicated that communication and collaboration within the co-teaching partnership was critical. The teachers reported planning together, however, they reported rarely collaborating to specifically determine co-instruction and assessment methods to be implemented. Cindy and Christi demonstrated in the observation and reported in the interview their support of each other and their collaboration effort as a team in planning and instructing. During the classroom observation, Sue delivered instruction and Michelle worked with students as needed with no evidence of a collaborative effort or plan for the lesson. During the interviews, Sue and Michelle both described they often planned independently and rarely implemented an identified co-teach model.

According to the rating scale, both sets of co-teachers modified their lesson plans to meet the needs of their students. Co-planning was observed with Cindy and Christi as they discussed the lesson prior to teaching it the day of the observation and indicated in the interview they often discussed how to present the lesson just prior to class. Co-teaching models were never discussed during planning according to the co-teachers interviewed indicating no plans were made prior to instruction regarding the use of a specific co-teaching

strategy. All teachers frequently administered common assessments to all students. The teachers stated that the special education teacher provided accommodations and modifications as required for test administrations for the special education students as required by the IEP. The rating scale indicated all teachers frequently modify tests for those students who are on a modified curriculum determined by the student's IEP.

Research question two asked, "How are teacher roles reflected in the co-teaching partnership?" Teacher roles were analyzed for implementation of research-based practices in a co-teaching partnership. Themes found when analyzing the roles of co-teachers in this study were the teachers exhibited a positive co-teaching relationship and learned from each other in co-planning and co-instruction and exhibited the traditional general and special education teacher.

The co-teachers' willingness to share the classroom and instructional responsibilities is key to a positive relationship. Christi and Cindy provided co-instruction to the class during the observation and both stated in the interview that their positive relationship benefits both the teachers and the students making it more enjoyable and interesting for all involved. Michelle and Sue emphasized that having two teachers in the classroom who co-plan and co-instruct is beneficial. However, their roles during the observation reflected the general education teacher, Sue, acted as the lead teacher while Michelle, the special education teacher, worked only with the special education students. All four teachers reported positive professional relationships between each co-teacher and having the opportunity to learn from each other. Specifically, the general education teachers both reported learning differentiated instructional strategies to teach their content area. The special education teachers reported learning the grade level content from lesson planning with the general education teachers.

The co-teachers reported during the interview that the general education teacher makes the instructional decisions for the classrooms due to experience with the grade level curriculum. This is reflected in research that general education teachers are regarded as the content specialist Mastropieri et al. (2005). In addition to taking the lead on the curriculum taught, the general education teachers reported in the rating scale and interview their roles were lead teacher and main instructional facilitator in the co-taught classroom. Both of the special education teachers indicated their major role was to assist the special education students and both would like to participate more in the co-instruction of lessons prior to re-teach or remediation. Specifically, the special education teachers reported the general education teachers' role was to make sure all students were successful and take the lead role in instruction and curriculum taught. The teachers were unanimous in reporting the special education teacher should modify assignments and tests and provide students with accommodations. In Cindy and Christi's classroom, Christi, the special education teacher, administered student accommodations. This was evident in both of the observations as it was solely the special education teachers' responsibility to provide accommodations to the students in the class. These results parallel research findings indicating the perception was that only special education teachers can provide the specialized knowledge regarding the provision of accommodations and modifications for struggling students (Friend and Cook, 2010; Mastropieri et al., 2005). The teachers emphasized that co-teachers in the classroom are beneficial to meeting the diverse needs of students during instruction. All teachers reported the general education teacher is the lead teacher due to their grade level content knowledge and the special education teacher is perceived as the support teacher. All reported the general education teacher should make instructional decisions and plan lessons with special education teacher input.

Research question three asked, “How does administrative support of co-teaching implementation impact co-teachers?” Administrative support is required for successful co-teaching classrooms. Themes identified in this area using the three data sources include administrators providing co-teaching training and scheduling for co-teacher collaboration. The teachers reported the campus administrator scheduled adequate planning time for co-teachers to collaborate to develop lesson plans in addition to ensuring the general and special education teacher schedules corresponded for the co-taught content areas. All teachers reported the campus administrator scheduled one day every nine weeks and one-half day every two weeks to collaborate and review lesson plans, however, they received no guidance assisting them with planning and execution of co-teach models. The rating scale and interviews indicated the co-teachers in this study possessed only a general knowledge of co-teaching strategies as a result of a lack of training. None of the teachers in this study had participated in training on co-teaching together, one special education teacher reported attending a co-teach training and the other three teachers had not attended co-teaching training. Consequently, even though the teachers reported positive administrator support, they had concerns regarding the need for initial and ongoing training in co-teaching strategies. They also reported a desire to be assigned to work with together as co-teachers for more than one year in order to develop a professional relationship and to improve co-teaching instruction in the classroom.

Discussion

The teachers reported their belief in the benefits of co-teaching for students and teachers and they indicated the main reason for co-teaching is to provide special education students’ instruction in the general education classroom. The results of the study found that all teachers had some experience in co-teaching classrooms previously, however, their knowledge of implementing co-teaching models and strategies appeared to be minimal as was also evident in a meta-analysis of qualitative co-teaching research that teachers consistently reported the need for in-depth and ongoing training in order to implement co-teaching strategies successfully Scuggs et al. (2007). In all cases, the teachers were forthcoming in providing information regarding their co-teaching experiences and implied their co-taught classrooms functioned appropriately to provide a positive student learning experience.

From the teachers viewpoints, benefits for students included teacher availability to special education students (Friend et al., 2010), two certified teachers with different perspectives on teaching (Kohler-Evans, 2006; Mastropieri et al., 2005), and social skills development (Murawski & Lochner, 2010). The benefits to teachers included providing a variety of instructional approaches (Friend & Bursuck, 2009; Kim et al., 2006; Thousand et al., 2006), teachers sharing ideas (Friend et al., 2010), and providing specialized knowledge in their areas of expertise (Friend et al., 2010; Mastropieri et al., 2005). The fifth grade co-teachers functioned separately in the classroom, providing instruction to their assigned students with no evidence of collaboration to provide co-instruction. The approach of the fourth grade co-teachers was a collaborative team effort and the approach of the fifth grade co-teachers was an individual effort based on their teaching assignment. Even though all teachers reported the benefits of co-planning to implement co-teaching, only the fourth grade co-teachers exhibited evidence of collaboration and prior co-planning during instruction with each teacher providing instruction and adapting to student needs.

The teachers viewed their roles in the co-taught classrooms from a more traditional perspective reporting the special education teachers’ role as the specialist in adapting or

modifying assignments and the general education teachers' role as the specialist in the content curriculum. There was agreement between co-teachers regarding their roles in the classroom even though they did not report formally discussing teacher roles prior to instruction. Both pairs of co-teachers reported a mutual understanding that the general education teacher provided the content knowledge and lead teacher role and the special education teacher provided support to the general education teacher and instructional interventions required for the special education students. The data suggested that while the teachers were generally comfortable in their roles, they realized the need for more in-depth information regarding co-teach models and implementation strategies that could improve instruction in their co-taught classrooms. Again, these findings suggest the lack of knowledge in co-teaching models and strategies, inhibited the ability to streamline co-planning, co-instructing and co-assessing (Murawski & Lochner, 2010; Ploessl et al., 2010).

Appropriate administrative support for co-teachers includes allowing teachers adequate planning time, listening to teacher needs, providing extensive and ongoing training to co-teaching teams in the areas of co-teach models and strategies of implementation that include co-planning, co-instructing and co-assessing (Daane, Beirne-Smith, & Latham, 2000; Friend et al., 2010; Scruggs et al., 2007). The teacher's in this study reported administrators scheduled adequate planning time to prepare for co-teaching, however, the teachers did not receive training in best practices of co-planning, co-instructing and co-assessing, so the time was not utilized effectively. All the participating teachers required additional co-teaching training for effective implementation.

Practical Implications

The co-teachers in this study reported the benefits of co-teaching for both special and general education teachers and students indicating a general understanding of the co-teach concept. Based on teacher reports, the concerns were identified as lacking the knowledge to implement research-based co-teaching models and strategies. The study implies that while teachers acknowledge the benefits, they realize the need for obtaining expertise in co-teaching models and strategies for optimal benefit. Positive administrative support for co-teachers is identified as key to implementation. The study has implications for developing collaborative co-teaching teams highlighting the benefits of administrative support and the need for professional training.

Limitations

The study was limited by sample size and geographic location. The study included only four elementary teachers, two general and two special education teachers, implementing co-teaching strategies in two grade levels. The location of this study represented teacher perspectives in one elementary school in a southern state. Due to the small size, the findings may not represent the majority elementary schools across the country making it difficult to generalize the findings.

Further research specifically in the areas of teacher knowledge of co-teaching, appropriate teacher co-teaching training, and co-teacher collaboration is needed. (Kloo & Zigmond, 2008; Tremblay, 2013). Qualitative study in elementary schools from a broader geographic area will assist in gathering information to identify effective co-teach implementation strategies. This study and prior studies identified the need for research into training teachers to implement the co-teach models and strategies effectively to establish a standard protocol for implementation.

Conclusions

Based on the information gleaned in this study, two conclusions can be considered to support recommendations for implementing an effective co-teach model in classrooms. First, the data analysis of teacher responses indicated that while teachers report an awareness of the research-based models for co-teaching, they lack expertise in implementing the models. All the teachers reported the need for further training to understand the models and strategies to implement them effectively. This is reflective of research indicating that teachers are unprepared for their roles as co-teachers due to a lack of co-teaching training (Friend et al., 2010). The success of a co-teaching partnership is based on the co-teachers' understanding and expertise in implementing research-based co-teaching models. These findings support the need for campus administrators to provide co-teachers with intensive and ongoing training in research-based co-teach models and strategies to implement them successfully.

Secondly, the data indicated the teachers in this study did not consistently function as a collaborative partnership to co-plan, co-instruct and co-assess in the co-taught classroom. The teachers indicated they had inadequate knowledge of co-teaching strategies and were generally found to be unprepared for the co-teaching roles. All of the teachers reported the need for training in strategies to effectively work as a collaborative partnership. Based on the evidence from the data, even though all of the teachers were striving to work in an amiable manner, each of the co-teachers functioned somewhat independently in planning, instruction and assessing. In addition, the teachers reported the continued traditional belief that the general education teacher holds the majority of the responsibility for classroom instruction while the special education teacher functions in a support role indicating a lack of a true cohesive partnership as defined by the co-teach research for effective implementation (Friend et al., 2010).

As a result of the findings in this study that correlated with practices identified in research, the recommendation for campus administrators is to consider in addition to providing ongoing co-teacher training and support in the co-teach models and strategies for implementation, they also need to provide co-teachers the opportunity to train together. Co-training has been found to play an important role in developing a collaborative co-teach partnership to learn effective methods of co-planning, co-instruction and co-assessment (Friend et al., 2010). It is imperative for the administration to recognize the need for initial and ongoing training as the co-teachers reported they did not fully understand the co-teaching models and methods to implement.

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