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**EFFECTIVE CO-TEACHING MODEL FOR MAINSTREAM MATH AND SPECIAL
EDUCATION TEACHERS AT THE SECONDARY LEVEL**

by

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A capstone submitted in partial fulfillment of the requirements for the degree of
Master of Arts in Education.

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CHAPTER ONE

Introduction

My research question is the product of working with a variety of co-teachers over multiple years. Having an additional person in the classroom is always helpful, but having an additional teacher is priceless. I was drawn to the idea that students can learn from multiple teachers in the same classroom and benefit greatly. I wanted to find ways to utilize co-teaching methods to better support all students. My research question is: how can teachers choose the best co-teaching model to support all of their students?

This chapter will trace my teaching experience and who I am as a teacher. It will also show my perspective on having a co-teacher with a different content specialty, while also sharing the many advantages and opportunities given to students with two teachers. There is no doubt that having two teachers in the room can greatly benefit any classroom, the question is how do you utilize both teachers in a way that improves student learning.

Background

After graduating from college, I was able to get a maternity substitute position early in the school year, at a middle school, teaching science. When my position came to an end, they offered me a school liaison position and a section of teaching English Learners (EL) Math. My EL class consisted of several students from various

backgrounds and levels, grades sixth through eighth, and an EL co-teacher. This was my first time working with another teacher in the room. My co-teacher had had years of experience co-teaching with many teachers, so it was very natural for her to jump in and contribute to the lesson in anyway. I was unaware of what it meant to be an English Learner and the struggles they encounter at school. While I was teaching content, she would often jump in and give support with vocabulary. For example, in a lesson finding the total bill after a percent tip, she would talk about the multiple meanings of *bill*, bill of a bird, ten dollar bill, or bill from a restaurant of what you owe. While she was giving verbal examples, I would sit at the computer and pull up pictures to show a visual of what she was saying. It was then that I started seeing more engagement from students and they had a much better understanding of what we were teaching.

The following school year, my role changed again. This time I taught 6th grade math, continued teaching a section of EL math with the same co-teacher, and co-taught math for two hours with another 7th grade math teacher. Although this wasn't my first year of teaching, I considered it to be my first year of teaching math, in my content area. I felt so lucky to have so many people supporting me and in the classroom helping. However, I don't think we used our co-teaching to the best of our ability in any classroom. I spent most of my focus on teaching the same content, a similar way to my other non co-taught hours, and mainly used my co-teacher for student behavior and opportunities to bring students up to speed if they had been absent.

Benefits Observed

After those first two years, I earned a more permanent position and have been teaching the same classes each year. I now teach 7th grade math, with one section of Special Education Inclusion Math with a SPED co-teacher. I also still teach the section of EL Math with the same co-teacher. Over time, I was able to see the many benefits that having a co-teacher could provide, in my EL math section.

In my EL Math class, having the same co-teacher each year has seemed to make a big difference in the classroom. We are familiar with one another and know the content that will be taught. I've seen a lot of growth with my EL students and many are able to move back to grade level math by high school. Students in my EL class gain much more than just basic math skills, they also gain vocabulary skills, orally and written. Their success is attributed to a smaller classroom environment with the benefit of having two teachers available. In our EL room we are able to do small group instruction in the same classroom. While I am teaching a new concept in the front of the room, the co-teacher is able to pull a couple of students to group work in the back. It is usually on something that they have had confusion on and need extra support and practice. It also provides a quick way for a teacher to check-in with the student and talk with them about their grade or ways for improvement.

Having another teacher in the room can provide additional opportunities for student growth. We are able to take an assessment and create multiple versions for different levels. Having a classroom with students of different grades and levels can be challenging to track and create assessments well. Being able to modify assessments to meet students where they're at is important. Last year, I was able to create an assessment and my co-teacher was able to modify it for different students. Some

modifications made were increased spacing, multiple choice options, cut up assessments for smaller pieces, and other changes.

Another great opportunity that co-teaching offered to my EL classroom was during our Minnesota Comprehension Assessment (MCA) review. Since we had grades sixth through eighth, we were able to split them up in two rooms and make sure we were covering material that could be on the MCA. I kept the eighth graders because this content was most unfamiliar and new to them. My co-teacher was able to take sixth and seventh and spend time reviewing content that was taught during the school year. It allowed me to cover more material for my eighth graders and helped to improve their test scores.

A benefit of having another teacher in the room is the ability to work together to build relationships with our students. Many times, students have butted heads with a teacher and then connected more with another because of that conflict. By having another teacher in the room, all students have someone to go to when needed. It also provides an additional support in the classroom when a student is struggling and needs to talk with a teacher privately. The rest of class can continue with the lesson while a student is talking with the other co-teacher privately.

By having another teacher in the classroom you are able to catch students up quickly who have missed a content day. While one teacher is continuing on with the lesson, the other is able to work one on one with the student and catch up on what they missed and then quick teach them what's going on today. It also allows time to pull a student and work one on one with when they have been struggling with content. Often,

after a quiz I am able to quick connect with a student who was making a mistake and correct it all while the other teacher is up front continuing the lesson.

One strategy that I've learned by having a co-teacher in my EL classroom is the benefit of having visual aids present for students. My co-teacher would create posters while I taught or while we took notes in class. She would refer back to those posters during the year and hang them in the room. When I saw how much my EL students relied on them for support with homework or quizzes, I thought I should try it in my mainstream classes as well. At first, I didn't think students would utilize them but they did. I allow students to use notes on quizzes, so when the posters went up around the room that reminded them of their notes, they started to use them regularly. Even if I asked a question in class, students would immediately start to look around for a clue or some support. As we covered new materials in class, new posters would be seen in the classroom.

Co-Teaching vs. Educational Assistant

When I started teaching my SPED math with a co-teacher it didn't feel the same as my EL classroom. I thought it might just be the students and the curriculum. My co-teacher never did anything wrong, but it never felt like we shared the same responsibility. To me it seemed my area was teaching the curriculum and theirs was to support students by keeping them focused during my lesson. That was a big help of course, but it wasn't co-teaching. It looked and felt similar to the position of an Educational Assistant. I never really gave an opportunity for my co-teacher to lead the class and take more ownership. I knew after that I wanted to invest more time into co-

teaching because I knew the benefits were there, especially after seeing it with my EL class.

I am excited to find a co-teaching model that works well for my SPED students and co-teacher. In preparation, this year I've changed the way we begin the year. My co-teacher has been up front leading students. They have been doing non-content specific things but still able to show authority in the classroom. It's important that our students see us as equals in the classroom and know that we are both in charge. Just after a week of having this happen, my co-teacher told me that they loved being in front of the class, giving directions. That it gave them the feeling of being their teacher and they wished their other classes did that as well.

My co-teacher and I have developed a routine that we will be able to modify as the year goes on. Their specialty is teaching SPED, mine is teaching Math, but we both teach all students and have our own passion in educating students. This year they have started the class each day and gone over homework and any review from the previous day. I am able to walk around and work with students who are disengaged or struggling with the content. Then we transition and I begin teaching new content and they walk around and work with students who need additional support. This has been a great working relationship thus far and I am excited to see what we're able to change after modifying our co-teaching techniques.

Summary

I believe having an additional teacher in the room can benefit the students in many different ways. Given my current teaching position, my research question is: how can teachers choose the best co-teaching model to support all of their students?

The next chapter will identify what co-teaching is and also the different models of co-teaching and how, when they can be utilized in a classroom. Each model will be described and any recently new models that have been developed. The next chapter will also describe what other roles co-teachers can have in the classroom when not using a specific model. It will also include the components needed to build and maintain a successful co-teaching partnership. The focus will be on secondary level education and include math and special education. It will discuss the benefits and drawbacks that often accompany co-teaching.

CHAPTER TWO

Literature Review

It is my understanding that co-teaching is becoming more and more popular in many schools. Instead of seeing co-teaching as a “special educating thing,” it should be seen as a “best practices in education thing” (Murawski & Bernhardt, 2015). My research question is: what is an effective co-teaching model between mainstream math and special education teachers in a middle school math classroom?

This chapter will discuss the research that can be found on the topic of co-teaching. Co-teaching includes having two teachers together in the classroom. The partnership between the co-teachers is a big piece of co-teaching. There are many factors that affect the relationship between teachers and therefore change the effectiveness of the education in the classroom. There are some commonly used models of co-teaching that have been widely used in the classroom that will be addressed in this chapter, as well as, roles that the co-teacher can take. It will also include the benefits and drawbacks that can be found on co-teaching.

Co-Teaching Description

Co-teaching teams began to gain interest around the 1960’s, where teachers would share responsibilities for planning and instruction in separate rooms (Cook & Friend, 1995, p. 1). It was a few decades later when teachers began sharing those responsibilities for students in the same rooms, particularly for general educators and special educators

(Cook & Friend, 1995, p. 1). Since then co-teaching has become more and more popular in schools as a way to promote effective instruction in all classrooms, especially in inclusive classrooms, where special education students are provided with the support needed to be successful in all content areas (Scruggs, Mastropieri, & McDuffie, 2007, p. 392). A foundational principle of the Individuals with Disabilities Education Act (IDEA), states that students with disabilities should be placed in a least restrictive placement setting, ages three through twenty-one (2004). The IDEA also states that any student with an individualized education program must receive specially designed instruction (2004). Due to new laws and regulations regarding the educational system, there is higher demand for full access to general education for all students, including students with disabilities (Walsh & Jones, 2004, p. 14). Inclusive classrooms, allow special education students to stay with mainstream content area teachers and receive the same content as general education students. Inclusive classrooms allow students with disabilities and students without disabilities to receive an education together.

In most inclusive co-taught classrooms, there is a general educator who provides most of the content instruction and a special educator who is able to provide instruction processes and support for students with disabilities (Wilson, 2008, p. 34). This partnership of co-teachers can either promote or hinder the success of the classroom, based on the success of their relationship (Scruggs, Mastropieri, & McDuffie, 2007; Sileo, 2011; Wilson, 2008). There is a high demand to develop additional support systems for students with disabilities so that they have full access to general education with their peers (Walsch & Jones, 2004, p. 14). The next section will describe the co-

teaching partnership and how that can affect the students positively or negatively in the classroom.

Co-Teaching Partnership

Often, many co-teaching partnership arrangements are made with little regard to the teachers working together (Sileo, 2011, p. 32). It can be a result of needing a Special Education Teacher in the classroom for students with disabilities in an inclusive classroom of any content area. The partnership of co-teachers is often described in similarity to a marriage (Scruggs, Mastropieri, & McDuffie, 2007; Murawski, & Dieker, 2008; Sileo, 2011; Wilson, 2008). As stated by Scruggs, Mastropieri, & McDuffie “Co-teaching is analogous to a professional marriage” (as cited in Sileo, 2011, p. 32). According to Wilson (2008), when co-teaching is compared to a strong marriage, both teachers are working together by sharing, planning, reflecting and changing together (p. 240). The same can be stated when comparing co-teaching to a bad blind date, where each teacher is just simply waiting for the school year to be over (Wilson, 2008, p. 240).

In order to have and maintain a successful co-teaching partnership, Administrative support was number one, according to Scruggs, Mastropieri, & McDuffie, and choosing the “right teacher” was number two (2007, p. 392). It was found in the study by Scruggs, Mastropieri, & McDuffie (2007) that volunteerism was also necessary for co-teachers to choose to work together rather than have administration decide for them (p. 403). There have been many reports of successful co-teaching partnerships when the teachers get to choose who to work with and vice versa;

unsuccessful co-teaching partnerships that were forced on teachers by administration were often less successful (Scruggs, Mastropieri, & McDuffie, 2007, p. 403)

One of the biggest aspects of co-teaching is the communication piece of the relationship. The next section talks about the importance of communication and some strategies that teachers can consider when working with other teachers.

Co-Teacher Communication

As with any relationship, marriage or co-teaching partnership the development stages are a critical component for success (Sileo, 2011, p. 32). According to Wagner (2015), co-teachers rely on one another greatly to improve instruction and to develop as educators. Skipping the time needed to develop a strong foundation can lead to many problems such as, communication issues and could potentially cause the relationships demise (Sileo, 2011, p. 32). According to Sileo (2011), the key to success in any relationship is compromise and collaboration. Together, co-teachers can reflect and identify students' strengths and find what is needed in order to improve instruction (Wagner, 2015). When co-teachers fail to communicate successfully and frequently, many disagree over instruction and students are able to pick up on tense relationships (Sileo, 2011, p. 32). Just as parents need to be on the same page when raising children, co-teachers need to communicate expectations with each other regarding students (Sileo, 2011, p. 32).

Communication Strategies

Sileo (2011) has identified communication problem solving strategies between co-teachers (p. 33). They are broken down into three stages: Getting Started, Planning, and Problem Solving. According to Sileo (2011):

At first, the relationship is great, and the partners are blissful and happy. As time evolves, however, newly formed relationships need to be nurtured to create a stronger relationship, because performing as a team is hard work, if it is to be successful and long lasting. (p. 38)

The first stage, Getting Started: The Relationship-Building, as identified by Sileo (2011), explains the importance of each teacher already having an understanding on the concept of co-teaching. This first stage provides an opportunity for the teachers to communicate openly about their goals and ensure that all classroom responsibilities are shared equally, including: instructional planning, delivery, discipline, grading, and communicating with parents (Sileo, 2011, p. 34). The next stage, Planning: The Marriage/Co-Teaching, addresses the importance of communicating the issues of instruction and curriculum planning. The third stage, Problem Solving: The Ongoing Relationship, identifies the need to be able to find times to discuss issues that arise during instruction (Sileo, 2011, p. 35). Being able to resolve issues in a timely manner can help to avoid a co-teaching relationship (Sileo, 2011, p.36).

Wagner (2015) has identified some strategies teachers may use to enhance their communication skills. Those strategies are paraphrasing, perception checking, asking clarifying questions, requesting clarification, summarizing, asking relevant questions, and active/attentive listening (Wagner, 2015). Using strategies to increase effective

communication can impact a person's ability to actively listen and become aware of how they communicate (Wagner, 2015).

Conclusion

The partnership is a critical piece of co-teaching and there are many factors that influence the effectiveness of the pairing. One of the most important factors of co-teaching is communication; "Effective communication is key to navigating professional relationships" (Sileo, 2011, p. 33). According to Wagner, keeping communication channels open will positively impact, over time, a strong partnership that can benefit all of the students (2015). "A positive frame of mind and an acceptance of varied perspectives work together to allow a foundation of cooperation that is mutually beneficial and supportive of student learning" (Tannock, 2009). For both co-teachers, the goal is for each teacher to share planning, instruction, and assessments (Wagner, 2015).

The next section will discuss some common models of co-teaching and how they are used in the classroom. The most common models of co-teaching are: Station Teaching; Parallel Teaching; Alternative Teaching; Team Teaching; One Teach, One Observe; and One Teach, One Assist (Cook & Friend, 1995; Friend, Cook, Hurley-Chamberlain & Shamberger, 2010; Sileo, 2011; Forbes & Billet, 2012; Friend, 2014; Friend, 2015). It will also give examples of how they are best utilized in the classroom to meet the high demands of all students, including students with Individual Education Programs.

Co-Teaching Models

In 1995, Cook & Friend founded six approaches for co-teaching. Those models are still in practice today. They are: Station Teaching; Parallel Teaching; Alternative Teaching; Team Teaching; One Teach, One Observe; and One Teach, One Assist (Cook & Friend, 1995; Friend, Cook, Hurley-Chamberlain & Shamberger, 2010; Sileo, 2011; Forbes & Billet, 2012; Friend, 2014; Friend, 2015). Friend, Cook, Hurley-Chamberlain & Shamberger (2010), find the intent of co-teaching is to make it possible for students with disabilities to benefit from specialized instructional strategies while accessing the general curriculum as general education students (p. 11). Each of the six approaches of co-teaching allow for the teachers to address the individualized education program goals and objectives of students with disabilities while also teaching a general curriculum (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010).

One Teach, One Observe Model

In this model, one teacher is leading instruction while the other is gathering data on specific students or the whole class (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). This provides a great opportunity for one teacher to collect information that can focus on academic, social, and/or behavioral skills (Sileo, 2011).

This strategy is best used at the beginning of the school year, where a teacher can observe student behavior, participation, and other student data (Sileo, 2011). According to Bacharach, Heck, & Dahlberg (2008), the key to this strategy is to focus the observation by the co-teacher not doing the primary instruction for the class. As the year goes on, you can modify what observations you'd like to track. This is a great opportunity to collect data on students and teacher delivery. It can provide a different

point of view that the primary instruction teacher may not have notice before and then make modifications in future lessons.

One Teach, One Assist Model

This model is very similar to One Teach, One Observe where one teacher, usually the content teacher, is leading large-group instruction for the entire class (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). The difference between this model and One Teach, One Observe is that the other teacher is circulating the room to provide individual assistance to students in need (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). This model provides a great opportunity for the assisting teacher to offer support to struggling students or students who are falling behind (Sileo, 2011). This model is not only for academic check in's and support but also for behavior issues that can arise in the classroom (Bacharach, Heck, & Dahlberg, 2008).

This model of co-teaching also provides an opportunity for the drifting co-teacher to “lend a voice to students or groups who would hesitate to participate” otherwise (Bacharach, Heck, & Dahlberg, 2008). It's really common for students to feel unsure of their answer or question when addressing the entire class. Many feel more comfortable to be able to check in with a teacher before sharing their answer aloud, it helps to build their confidence.

In my SPED co-taught classroom, this model is greatly beneficial and used regularly. One teacher is presenting or reviewing information up front. The other teacher can circulate and check in with specific students based on a homework question from the

previous day. It provides a great opportunity to address misconceptions before they continue into the lesson.

Parallel Teaching Model

This model allows students to split up into two groups. According to Bacharach, Heck, & Dahlberg (2008), “the greatest advantage to this approach is the reduction of student to teacher ratio”. Each teacher is providing the same instruction, the benefit being that students are given more opportunities for participation (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). It also provides an opportunity to use differentiated instruction (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). The groups should be of equal size (Sileo, 2011). According to Forbes & Billet (2012), this model is a great method that can reinforce and reteach any necessary topics. This method can also support teachers when one is absent so students stay in their routine (Forbes & Billet, 2012).

The strength of this strategy allows for teachers to work in small groups of students, allowing all students an opportunity for individualized and hands-on learning (Sileo, 2011). It is commonly used for classes such as science, with lots of experiments, where teachers have better control over the variables (Sileo, 2011).

Station Teaching Model

The station teaching model allows for content to be divided up and taught at different stations (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). Commonly, there are three stations, where two stations have teachers teaching new content and one station is an independent work station (Friend, Cook, Hurley-Chamberlain &

Shamberger, 2010). According to Sileo (2011), stations should not build on one another but instead they should be nonsequential. Another advantage to using stations is that it increases the interactions between student and teacher (Sileo, 2011). Depending on the location of the teachers' classrooms, students may switch classrooms for group changing or students can just rotate at tables in one classroom (Forbes & Billet, 2012).

This station is one of my favorites for teaching math, especially on review days. I typically have the two teachers at the tougher stations. These two stations are the ones that need the most teacher support. The other stations are not only easier but accompanied with a student expert or lots of visuals. Other times, I will have one teacher stay at a more challenging station, while the other teacher circulates the room, checking in with groups and answering questions as they go.

Alternative Teaching Model

This model provides several students specialized education attention (Forbes & Billet, 2012). According to Bacharach, Heck, & Dahlberg (2008), "the learning outcome is the same for all students however the avenue for getting there is different. In this model one teacher works the majority of the class and the other teacher works with a small group (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). The small group could be working on remediation, enrichment, assessment, preteaching, or another purpose (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). Commonly, this method is used when there are a few students struggling with recent content, so a teacher is able to pull them aside and reteach as needed (Forbes & Billet, 2012). In the meantime, the other students can be advancing in the material or doing an extension

project (Forbes & Billet, 2012). Sileo (2011), points out the importance of making sure the small group of students should change according to needs and not always remain the same small group.

This is another favorite model of mine currently on revision days. One teacher stays with the majority of the class and the other takes a small group who typically struggled on specific areas of the test and reteaches it. It provides an opportunity for those students to work in a small group and get the support they need.

Team Teaching Model

This model is often referred to as “tag team” teaching or “one brain in two bodies” (Forbes & Billet, 2012). This technique allows for both teachers to be presenting new information in front of the entire class (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). They can deliver the information in a variety of ways such as, lecturing, representing opposing views in a debate, illustrating two ways to solve a problem, etc. (Friend, Cook, Hurley-Chamberlain & Shamberger, 2010). Sileo (2011), points out that this model also provides an opportunity for teachers to model clarifying questions. This strategy takes the pressure of the students who struggle understanding the new material by having the teachers ask each other questions (Sileo, 2011). Students report that when this model is used, they feel as though there are two teachers, rather than one content teacher and one support teacher (Forbes & Billet, 2012).

According to Wadkins, Wozniak, & Miller (2004), there are three main advantages to team teaching: (1) students see diverse teaching styles; (2) each co-teacher is the master of their content area; and (3) instructors are also able to learn from one

another and modify instruction for non-co-taught classes. It also shows students how to work together as a team by example (Wadkins, Wozniak, & Miller, 2004). Teachers are forced to work together to create their own co-teaching style and students can observe how you work, plan, and overcome obstacles together (Wadkins, Wozniak, & Miller, 2004).

Conclusion

All six models can be of use in the co-taught classroom in a variety of ways. They all have their own advantages and are best used in specific situations when teachers have a desired outcome. The next section looks at the same models of co-teaching but identifies ways to integrate specially designed instruction into the classroom at the same time (Friend, 2015).

New Look at Models

Although the names are still the same, Friend (2015) discovered how to use these approaches to integrate specially designed instruction to meet the high demands of co-taught inclusion classrooms. The only models Friend looks at and gives examples of are: Station Teaching, Parallel Teaching, and Alternative Teaching.

According to Friend (2015), station teaching provides countless ways to integrate specially designed instruction. In a study by Friend (2015), during a math class, co-teachers are able to work with a student on social skills. Math is the student's strength area, so they're able to incorporate the social skill of letting everyone get a turn, during a math lesson. The student has been known to struggle with this social concept. While using stations, the teachers use a social story that will guide the student to take turns

while interacting with peers. A social story is a “strategy that teaches social skills in a concrete, reassuring way” (Friend, 2015). This is an illustration of how a mainstream course can also have a secondary goal when the co-teaching is intentional.

Co-teachers can use parallel teaching to address two different instructional approaches during the same lesson to address individual student needs (Friend, 2015). For example, teachers split up their students based on needs. One group focuses on students who need a more direct and explicit approach to provide support for student who struggle with complex tasks (Friend, 2015). While the other group works more independently with partners, finding online resources to answer several guided questions (Friend, 2015).

There are many ways to utilize alternative teaching, teacher-led small groups (Friend, 2015). One way that Friend (2015) describes is while the other students are being led through a short warm up, the other teacher pulls a small group of students and quick teaches them key vocab words they will see in the upcoming lesson. This allows these students to be more successful when the new concepts are introduced to the whole class (Friend, 2015). Another way to utilize alternative teaching is to being able to access students in class without having the pull them out of class (Friend, 2015). While one teacher is leading the whole class, the other can quickly assess by asking students questions, checking their understanding, retention, and progress towards Individual Education Program goals (Friend, 2015).

Conclusion

Based on these new approaches to the common six models of co-teaching, teachers are “redefining the professional relations: It’s less like a marriage and more like a business partnership” (Friend, 2015). The end goal is that students with and without disabilities not only learn the grade-level curriculum but also learn strategies to help them succeed in life (Friend, 2015). The next section looks at ways teachers can be an active co-teacher in the classroom, when not addressing a specific model. Co-teachers will often take an active role in the classroom when not doing a specific model as mentioned above.

Roles of an Active Co-Teacher

There have also been research done on what an active co-teacher can do while co-teaching, not using any particular co-teaching model (Weiss & Lloyd, 2002; Wilson, 2008, p. 240). Wilson describes two ways that co-teacher can use a variety of meaningful activities while in the classroom. Most are for the co-teacher who is not leading instruction. Here are a list of each activity and a brief description by Gloria Lodato Wilson (See Appendix A).

I have been able to experience many of these with many of my co-teachers in the past. Often, the non-presenting co-teacher walks around the room helping to keep students focused, stopping any distractions that occur and helping struggling students. Utilizing a co-teacher to form a mini-group can be so useful in the classroom. I often have mini-groups formed after quizzes, where students are grouped on learning targets missed and are then provided an opportunity for re-teaching, clarifying, and re-quizzing. My current co-teacher for my math inclusion class will start class with a short

warm up, while I walk around checking homework and then going over missed questions/concepts with students. They miss part of the warm up but in the end are able to correct mistakes they were making on a homework assignment. One thing, I am very interested in trying is having the non-presenting co-teacher observe the levels of questions I am asking. Our school recently became an AVID National Demonstration School and we use COASTA's levels of questions daily. Another area I am interested in practicing is having the non-presenting co-teacher observe students. I think observing behavior, on task, and participation of students can lead to great modification in the classroom and therefore greater student success.

There have been many researched activities that provide additional opportunities for co-teachers to work together towards improving student success in the classroom. These activities and models lead to the many benefits that can be seen in successfully co-taught classrooms. The next section will discuss the benefits that can be observed in co-taught classrooms and drawbacks that can occur while implementing a co-taught class.

Benefits of Co-Teaching

There are many advantages of co-teaching for both teachers and students. The most common benefits that have been discussed are: student and teacher relationships; increased student performance; differentiated instruction; and teacher areas of expertise.

Student and Teacher Relationship

By having two teachers in the same classroom it means a better student-teacher ratio (Forbes & Billet, 2012). There is a great benefit in having another person in the

room just to observe the lesson and look at ways to improve on it (Forbes & Billet, 2012). Many times student conflicts arise with teachers and by having another teacher in the room allows for a student to have a conflict with one teacher and still get the necessary instruction and support from the other (Forbes & Billet, 2012). According to Hurd & Weilbacher (2017), students were found to address the teacher they felt most comfortable with for help and often responded better to the information they provided. The presence of two teachers in the same classroom decreases the number of disruptions and dangers (Forbes & Billet, 2012).

Increased Student Performance

It can also be stated that by having two teachers in the room, students performed better on tests, such as report cards, and attendance was higher than classes with one teacher (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). However, there wasn't a significant difference when looking at state testing or achievement in co-taught classrooms compared to general education classrooms (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010).

Differentiated Instruction

Another benefit of having two teachers in the classroom is that there is a greater expectation to provide a wider range of instruction, by using a variety of models in the classroom (Magiera, Smith, Zigmond, & Gebauer, 2005). These models can provide students with the structure and support needed to accommodate their learning needs of students with disabilities and without (Magiera, Smith, Zigmond, & Gebauer, 2005).

Co-Teacher Area of Expertise

It can also be said that each teacher is bringing their own area of expertise to the classroom (Murawski & Dieker, 2004). According to Rice, Drame, Owens, & Frattura (2007), “special educators can increase their content area knowledge while general educators increase their ability to adapt lessons through varying instructional format”. Murawski & Dieker (2004), point out that both educators are able to use their expertise to the classrooms advantage by using their strengths to accommodate lessons and differentiate instruction.

Effective co-teaching can make learning for all students a successful process by being able to blend the knowledge of the special education teacher with the content teacher (Magiera, Smith, Zigmond, & Gebauer, 2005).

Drawbacks of Co-Teaching

There are many drawbacks to co-teaching that can come up in the school environment. The most common drawbacks that have been discussed are: each teacher feeling valued and having equal partnership in the classroom; timing needed to plan; personality conflicts between co-teachers; and funding required allowing schools to have multiple co-teachers. This section will provide research on the multiple drawbacks of co-teaching.

Equal Partnership

Many times one of the co-teachers will feel less essential due to the roles taken by each co-teacher (Wadkins, Wozniak, & Miller, 2004; Wilson, 2008, p. 240). Usually the general education teacher is the one to take the main role of instructor while the special education teacher is the one to provide support (Wilson, 2008, p. 240). When the special

education teacher feels less essential then often students will also believe that. When one teacher takes the main role, it affects more than just the co-teachers.

One of my first years co-teaching, I had a co-teacher in the classroom for one hour of the day. We got along really well and both were present in the classroom daily. If there was a day where I was absent, they would lead the classroom, sometimes without a substitute to take my place. Often, they would complain the next day that the students were uncooperative and didn't follow any directions. I was always surprised to hear that they struggled with the lesson if I wasn't present in the classroom. This concluded that I was seen as the head teacher and we weren't seen as equal partners. It only reminded me that I wanted to find a way to ensure that both co-teachers were seen as leaders and could give any directions while in the classroom and have students respond appropriately.

Time

Another con attributed to co-teaching is the drawback of time for planning lessons together (Bauwens, Hourcade, & Friend, 1989; Forbes & Billet, 2012). Teachers use common prep time to collaborate about students, lessons, assessments, classroom activities, and so much more (Forbes & Billet, 2012). "Teachers need time to discuss the mathematics curricular goals and the individual needs of students with disabilities" (Magiera, Smith, Zigmond, & Gebauer, 2005). Many times, special education co-teachers are in multiple rooms during the day Forbes & Billet (2012). Therefore meaning they would need to co-plan lessons and activities with their co-teachers, often having four or more teachers to collaborate with. This is something I am still struggling to figure out how to make work with my co-teachers. There doesn't seem to be an easy solution to

plan with co-teachers on a daily basis. Over the past two years I have been using Google calendars to help collaborate more with my co-teachers. There we can see what the weekly agenda is, lessons to be covered, and then discuss any issues that happened or feel might occur. It allows for us to communicate when we aren't face to face. It also allows for the non-content teacher to be able to see the pacing of the class and know what needs to be covered and what can be skipped each year.

Personality Conflicts

Personality conflicts often arise between co-teachers as mentioned earlier. This can lead to an ineffective co-taught classroom where two teachers argue over the best instructional practices, teaching philosophies, classroom behavior expectations, and more (Bauwens, Hourcade, & Friend, 1989; Forbes & Billet, 2012). This issue appears to be the one that can make or sink a team of co-teachers the most. Being able to openly communicate about how the classroom dynamics are working is essential.

Funding

Finding funding to be able to have two teachers in the classroom can be a struggle for schools (Forbes & Billet, 2012). Forbes & Billet (2012), mention that commonly, the support teacher is in multiple content classrooms during the day and that they can vary each semester. There is an extra cost that is required when having multiple co-teachers in the school. Not only are you paying for one full time teacher but now two per classroom. It could potentially double your funding for teachers.

These pros and cons of co-teaching can directly affect the success of co-teaching and the success of the learners in the classroom (Forbes & Billet, 2012). Even with the

limited research on co-teaching, we can see that this is something growing more and more in our schools, and the overall gains outweigh any negatives that can arise (Forbes & Billet, 2012).

Conclusion

The previous chapter focused on co-teaching and the different models that are used in the classroom. It was concluded that there are six commonly used co-teaching models and that each served their own unique purpose. Using each model would be appropriate depending on the goal or outcome desired by the co-teachers. Co-teaching could be influenced by many factors, including relationship between co-teachers. Based on how co-teachers work together and plan lessons result in either positive or negative experiences for both teachers and students.

My research question was: how can teachers choose the best co-teaching model to support all of their students? Based on the research, there doesn't seem to be a most effective co-teaching model to use in the classroom. There are many models that can be used regularly to meet the needs of students and the lesson's desired outcome. When using a model appropriately, student achievement and engagement will be at its highest.

The next chapter will give a detailed explanation of how the project to the research question: what is an effective co-teaching model between mainstream math and special education teachers in a middle school math classroom, will be carried out. It will talk about effective co-teaching models that can be used in the classroom. The purpose of the following chapter is to describe the project used to identify an effective co-teaching

model that explains the research, timeline, audience, setting, and methods used during the project.

CHAPTER THREE

Project

The purpose of this project was to provide a professional development session that helped identify an effective co-teaching model to use in co-taught classrooms. It provided resources for co-teaches to learn about different co-teaching methods that will be used in their classrooms. Specifically, it answers the following question: How can teachers choose the best co-teaching model to support all of their students? The primary focus of this project was on teaching co-teachers the different models used in a co-taught classroom and how to utilize these methods effectively to meet the needs of students.

The research surrounding co-teaching is pretty limited and there is not a ‘one size fits all’ best method. The next section will summarize the research and views of co-teaching and how they can be best utilized in any co-taught classroom. This chapter will also describe the research surround this topic and also the commonly used models of co-teaching. It will explain the setting in which it took place, as well as, the participants involved and the timeline of the project.

Research Paradigm

Based on the research, there wasn’t a determined most effective co-teaching model to use in the classroom. Each model seemed to have its own purpose and reason

for using over another based on the needs of the students. When using a model appropriately, student achievement and engagement will be at its highest.

Setting

The setting in which this professional development took place was in a public middle school media center. The middle school is an sixth through eighth grade school located in a city, serving about 800 total students. Caucasians make up about 35%, Asian about 30%, Black about 18%, and Hispanics about 13% make up the schools demographics. The middle school currently provides co-taught classes for students receiving SPED and EL services in their main subjects, including math, language arts, social studies, and science. In these co-taught classrooms, there is one content teacher (instruction typically takes place in their classroom) and one SPED or EL licensed teacher. Students are typically with the same co-teacher, SPED or EL licensed teacher, for most of their school day.

Audience

The audiences involved in this project are the middle school teachers who co-teach during their day. Teachers attending this professional development session attended with their co-teacher. It ensured that both teachers' expressed their goals and teaching philosophy to one another to help promote a better co-teaching experience.

Timeline

The timeline of this project will be during the Workshop week of the 2018/2019 School Year, on Wednesday August 29th from 8 am to 11 am.

Partnership

This past school year was the first year that my co-teacher and I have worked together. We made sure to start off the year with an equal partnership by having each teacher leading the classroom at different times. They will typically begin the class with a warm up and setting up notes. This typically takes anywhere from ten to fifteen minutes total. Then I will lead the new content portion of the lesson. The last ten minutes or more are for independent student work time where students are able to work on homework and finish before leaving for the day. Both co-teachers stay in the classroom and are available for student questions and homework checking.

One issue we've run into is that some students feel that because this class takes place in my classroom, I have more ownership. When students believe I am the only teacher in charge then they often won't listen to the directions of the other teacher. Students are also less likely to take the other teachers advice/learning strategies. This is something that we've struggled to address, other than saying "it's our classroom for first hour". One possible solution we could do to help switch that perspective would be to have days where we all go to the other co-teachers classroom and have the lesson there. That way we are in both teachers classrooms and students have the same expectations regardless of what room we're in. The next section will describe the project and how it was carried out within the co-taught classroom.

Project Description

This section of the chapter gives a description of the professional development session offered for staff members who are currently or will be co-teaching in one or

multiple classrooms. The length of this session was approximately three hours long and took place in the media center of the middle school. This session was most effective for co-teachers who attended in teams with the other teacher they will be working with. Teachers signed up on their own with their co-teacher colleague during the 2017/2018 Workshop Week. Malcolm Knowles (1973), implies that adult learners often come motivated to learn new concepts when they have a current problem and are looking for a new strategy to apply immediately (p. 48). Reflecting on the previous school year, specifically the co-taught classrooms, teachers will know what they want to improve on or change for the following year and have some goals when going into the professional development session.

The session used a PowerPoint to provide information to staff and also some handouts for visuals and individual reflections that they were able to take with them for an additional resource. Team teachers were provided opportunities to engage with one another about teaching practices throughout the presentation. In closing, instructional coaches announced their areas of expertise and ways to support staff moving forward. They also used the sign-in sheet to provide a follow up email suggesting an Instructional Coach meeting to discuss next steps and ways to support co-taught classrooms.

Effectiveness

The effectiveness of this professional development session was determined by the reflections by participants. As well as, interest in using school resources such as coaches to help implement different co-teaching methods in their classrooms. Bates & Morgan (2018), suggest the positive impact that collaboration can have on professional

learning. Working with an instruction coach throughout the year on a specific goal, that involves your co-taught classroom, can provide great collaboration and experiences.

Summary

Teachers who are co-teaching together have an opportunity to learn about common co-teaching models during the professional development session. Providing a professional development session for co-teachers will allow them to have time to plan and think about how to implement them in their classrooms with their co-teacher. Working together with their co-teacher will insure that both teachers' voices are heard and respected. It will help make sure that teachers' values are respected and that the classroom will belong to both teachers equally. The next chapter will summarize the conclusions of this project.

CHAPTER FOUR

Conclusions

This project provided a professional development session that identified an effective co-teaching model to use in co-taught classrooms. It gave attending participants resources about different co-teaching methods that could be used in their classrooms. Specifically, it answered the following research question: How can teachers choose the best co-teaching model to support all of their students? The primary focus of this project was on teaching co-teachers the different models used in a co-taught classroom and how they can be utilized effectively to meet the needs of students.

This chapter will provide the conclusion of the project and give information on the following: major learnings, research, implications, limitations, future projects, communicating results, and benefits it has on teaching. The next section will talk about the major learnings that I learned during the process of this project.

Major Learnings

While working on this project for adult learners I was surprised by how limited the research was on this topic. There is a lot of information regarding the learning process of young learners starting with infants but finding information on how adults learn best was challenging.

Another major learning was figuring out what to say in the notes section of the PowerPoint. I feared presenting information that was boring or deemed useless, we've all sat in trainings where we were constantly watching the clock, waiting for it to be over. It was more challenging than what I thought to come up with what I wanted to say and it took a lot more time. I initially thought I could just go through each slide and write what I was thinking in my head. After a lot of edits, I found the best way to write the notes was to actually present the information out loud while I was writing "what I would say" on each slide. It reminded me of a high school speech I had to give to my school board members and how my mom made me stand on our kitchen table and present the information out loud for my family multiple times.

Something that was unexpected while creating this project was found while creating the assessment aspect of the project. This was my favorite aspect of the project because I was able to connect it to the research of adult learning. It validated what I was already planning and made me feel like I was on the right path. The next section will review the literature review from chapter two; what was most important and how it connected to my project.

Literature Review

Based on the research, there doesn't seem to be a most effective co-teaching model to use in the classroom. From the research and my experience of the six models, there are four that are most commonly used and beneficial to the classroom. The four common co-teaching models are: One-Teach, One-Assist, Parallel Teaching, Station Teaching, and Alternative Teaching. The co-teaching models can be used regularly to

meet the needs of students and the lesson's desired outcome, when used appropriately. Co-teaching could be influenced by many factors, including relationship between co-teachers. Based on how co-teachers work together and plan lessons result in either positive or negative experiences for both teachers and students. Which is why having a professional development session for co-teacher to attend together would be greatly beneficial when they are trying to figure out how things are going to work moving forward.

Implications

One implication for this project was the funding required for this professional development session, especially if more than one session was offered to provide the most opportunities for staff to attend. Our school district has cut back on time for our workshop week due to financial cuts and convincing them of an additional workshop session is challenging.

Another implication for this project was staffing changes that occurred during workshop week of the school year. There were many changes to staffing positions during the summer and during the week before the new school year officially begins (workshop week). Some new staff wasn't interested in attending this professional development session because they felt they could use their time better in prepping for the quickly approaching school year.

Some staff members who have co-taught together for multiple years were also not interested for multiple reasons. They felt that they already have a good thing going with their current co-teaching and didn't want to make any changes.

Limitations

A limitation that caused problems with this project was when teachers work with multiple teachers during the day. Based on my earlier research in chapter two, many times, special education co-teachers are in multiple rooms during the day Forbes & Billet (2012). Therefore meaning they would need to co-plan lessons and activities with all of their co-teachers, often having four or more teachers to collaborate with. This was a problem when organizing who to sit with and providing enough time to collaborate with multiple teachers. I felt the best way to approach this was to have administration select one pair of co-teachers to attend the session based on interest and need. If more than one pair of co-teachers were interested and have a shared co-teacher they could provide multiple sessions during the workshop week. The following section is about what recommendations and next steps I have for future research on the topic of co-teaching.

Future Research

When thinking about how this project can be modified or what the next steps would be for continuing this project I thought of three ways: Instructional Rounds, Co-Teaching Partnership, and Summer Institute.

Instructional Rounds

While thinking about next steps for this project I thought about instructional rounds. Instructional rounds are when teachers go to another teacher's classroom to "compare their own instructional practices with those of the teachers they observe" (Marzano, 2011). Instructional rounds can be based on any goals you have made with your instructional coach. These instructional rounds are for small groups of teachers

(about five teachers, the instructional coaches, and any administration who are interested) go to a predetermined classroom of any subject and observe a lesson. Educators observe the lesson for a short period of time, about 10 minutes. Then they regroup in another location and discuss what was observed. When I've participated in an instructional round, I was given a form to fill out that had the sections; wows, wonders, and questions to fill in while observing. When we discuss afterwards we talk about those sections and how it is similar or different from our classroom.

I've found instructional rounds extremely beneficial to my own teaching profession. Each year, I have been able to attend multiple instructional rounds; some were even virtual, to accommodate large groups. Instead of going to the teacher's classroom to observe, you observe the teacher through a previously recorded lesson.

Summer Institute

Another thought I had when thinking about how this project could be modified or improved upon would be to create a professional development opportunity for all teachers, not only for one school. It could be modified for a "Co-Teaching Summer Institute" that any teacher in the United States could attend with their colleagues. It would require quite a few modifications but would provide for greater learning opportunities and shared experiences between teachers. The next section is share how this project could be shared with other professionals.

Co-Teaching Partnership

One final thought when brainstorming how to continue this research, was focused on the importance of the relationship between co-teachers. It may be beneficial to have a

project be based on creating and maintaining a positive co-teaching relationship. Based on the research, many co-teaching partnerships are deemed successful or unsuccessful based on the relationship aspect.

Communicating Results

One way to share my capstone project with others will be through the Hamline Library. It will allow for anyone to search the database and find my project to use as they wish. The Hamline Library is a great resource for current students to use when working towards their degree. My capstone project can serve as a starting point for students or where they gather information and resources.

Another way to communicate my capstone project and research would be at my current school/district. It could be part of a professional development on the topic of co-teaching. It could also be shared among my colleagues who are interested in learning about co-teaching. The next section of this chapter is on the benefits of this capstone project for other professionals and students.

Benefit to Teaching

This project can be a great benefit for teaching. It can help improve how co-teaching is used in current classrooms and provide additional resources for co-teachers to improve their methods. There is an increase in the number of co-taught classrooms and many teachers; although they know there are great benefits of co-teaching, find it challenging to work with another teacher effectively. Our school uses co-teachers for both SPED and ELL services and there are multiple teachers who would benefit from a professional development session like this.

It can also help teachers to create school year goals to work on with their administration and instructional coaches. Each school year, all teachers create goals to work on. They can work on them independently or with an instructional coach. Having instructional coaches who are educated on the different co-teaching models will be of a huge benefit. Goals are typically student centered or teacher practice based. Both types of goals are appropriate when focusing on co-teaching models to use in the classroom. I had a student centered goal this year that looked at student participation when using different co-teaching models in the classroom. My instructional coach came in and observed frequently, recording when students shared answers, asked questions, and showed work on their paper to figure out an answer. I found it very useful when focusing on my goal to help improve my co-teaching practices.

Another benefit of this project is directed at my students. I believe after all of the research involved and time spent on each of the co-teaching methods, I have a better knowledge on what I can improve on for my future, co-taught classrooms. Having a better understanding of each method and how they can best be utilized in the classroom, my students will also benefit.

Summary

This capstone project was the result of my involvement in multiple co-taught classrooms throughout my career and how I experienced successful and unsuccessful experiences. I wanted to find a method that would work well for both co-teachers involved to provide the greatest learning experience for students. I knew there must be a way to dramatically improve our students learning experience by having two teachers in

the classroom. The question was trying to figure out what was needed for the co-teaching to be successful and what method would benefit the students the most.

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APPENDIX

Appendix A:

Wilson, G. L. (2008). Be an active co-teacher. *Intervention in School & Clinic, 43*(4), 240-243.

1. Graze – nonpresenting co-teacher walks around room, notes student performances and interacts briefly with students helping behavior.
2. Poke, Prod, and Cue – nonpresenting co-teacher focuses on student performance by helping with materials, giving redirections with necessary, clarifying directions.
3. Land – nonpresenting co-teacher stays with a student for at least one minute to clarify, help, and ask questions about content.
4. Target – similar to land, the nonpresenting co-teacher stays with student for one to five minutes, allowing time to reteach content and intensify instruction.
5. Pair up – nonpresenting co-teacher sits next to student and gives a one on one guided lesson that is similar to what the presenting co-teacher is giving but individualized for that student. This is sometimes done in another location to intensify instruction.
6. Form a Minigroup – nonpresenting co-teacher takes three or four students who are struggling with similar content and creates an individualized lesson on content.
7. Observe Student Behaviors – nonpresenting co-teacher observes particular students on specific difficulties (time in seat, asking questions, ontask, etc.).
8. Observe Student Questions and Responses – nonpresenting co-teacher observes and records information regarding how many times students ask questions and raise hand. Afterwards, teachers analyze information and make adjustments to work at giving more opportunities to increase participation from other students.
9. Observe the Presenting Co-teachers' Questions – nonpresenting co-teacher observes the level of questions from the presenting co-teacher (e.g., Bloom's Taxonomy).
10. Think of Adaptations and Modifications – nonpresenting co-teacher takes notes and thinks of modification that can be made for increased student success.
11. Make an Assignment – nonpresenting co-teacher refines lessons and assignments while students are learning, paying attention to common mistakes made and looks at ways to address in the following lesson.

12. Scan an Assignment – nonpresenting co-teacher collects homework and assesses skills and common misunderstandings students are making. Then nonpresenting co-teacher reteaches content to students who are making the mistake or if many students are making the same mistake, addresses presenting co-teacher to cover during current lesson.
13. Create a Graphic Organizer – nonpresenting co-teacher organizes current lesson being taught on an on-board graphic organizer. Student can then use this for homework or transfer to notes in new format.
14. Check a Notebook – nonpresenting co-teacher looks over student notebook, making suggestions and comments to help keep student more organized.
15. Check Homework – nonpresenting co-teacher collects all homework from students and check areas of difficulty.
16. Take Notes – nonpresenting co-teacher takes notes while presenting co-teacher is teaching content, afterwards, they compare notes and look at what students missed.
17. Write Directions and Notes on the Board – nonpresenting co-teacher writes directions/notes on board, while presenting co-teacher is giving information, allowing students to see and hear new material.
18. Create Exit Questions – nonpresenting co-teacher can create commonly missed questions that have now been addressed as an exit slip. This provides an opportunity to check for student understanding of new material and allow teachers to modify upcoming lessons accordingly.
19. Interject a Different Point of View – have co-teacher discuss different points of view on a specific topic so students can see and hear different perspectives.
20. Verbalize Possible Confusion – nonpresenting co-teacher can clarify commonly confused areas of the lesson while presenting co-teacher is giving new material. This can benefit shy students who often won't ask questions when confused.