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Co-Teaching: Is the Co-Teaching Model the Most Effective Strategy for Students?

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ED 696 Action Research

Dr. Renee Harmon

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Chapter One

How do teachers reach all demographics of students in a class? These demographics include students of all races, socio-economic backgrounds, and academic standings. Each student deserves the same opportunities and co-teaching is a good alternative to the typical classroom.

General Problem/Issue

Inclusion hasn't always been important in education. In the recent past, students were often taken out of the classrooms to get individual help, this really made students feel excluded and as if it did not matter whether they were a part of the class. Not only did they take tests in a separate room, but they often times were rarely seen in classes each day. They were forgotten about in general education classrooms. Recently, it has become mandatory for students with special needs to be included in the regular classroom setting to feel a part of the class rather than segregated on their own. This has led to many schools trying to find a way to reach both the special education students and the regular education students at the same time and effectively. One way that this is being done is through co-teaching with a classroom teacher and a special education teacher.

Inclusion, as a teaching strategy, is meant to make everyone in a classroom feel wanted and as a part of the class. When students are singled out by being pulled out regularly they start to feel as though they are not a part of the class. Inclusion is a concept that is based on a model that was adopted as part of the *Individuals with Disabilities Education Act* (IDEA, 2004), says that students who have been identified as having a disability must be educated in the least restrictive environment. Although students with a disability are important, there is another

group of students that are not getting the attention they deserve and are also deserving of the same philosophy.

This is not just being done with special education, it is being used in Title I classrooms as well. The Warroad School District is also using this in other grant programs that work with a lower income and lower academic skills. The research being done in this study is to prove the effectiveness of the co-teaching model within a grant program with below grade level students. Hopefully this study will be a guideline to prove that the co-teaching model is effective within the special education atmosphere.

Warroad is located in northern Minnesota and is a town that is full of industry and therefore draws in a lot of different cultures. Many families move for the steady job being offered and many families in the town are considered low income. The school consist of many ethnicities consisting of students of American Indian, Asian, African American, and Caucasian descent. This is a good opportunity to learn about many cultures and learning processes. Many of our students have really good parent interaction, but there are also quite a few that lack parent involvement. Each student learns differently and all students need assistance to learn in their own way.

Co-teaching has always been an interest of mine, and many teachers have a desire to utilize other teachers in the classroom as have them available as a resource for the students. Unfortunately, there are not as many teachers willing to try this method without being forced to. This year I was lucky enough to be paired with a teacher that has the same philosophy and willingness to try new things that I do. We decided that we would co-teach this year and share

responsibility for the growth or decline of our students regardless of what happens. This is a learning year of data collection and we hope to use this data to improve from this year.

Defining Co-Teaching

Co-teaching is defined as the collaboration of two or more educators work together with groups of students and share accountability over both groups (Friend, 1995). The word itself means to work together to achieve a common goal. Another way teachers use the co-teaching model is something called the push-in model. Teachers have two choices when it comes to interventions, to keep students in the classroom or to send a single student or a whole group of students away for more individualized instruction.

Prior to the co-teaching model, the pull-out model was the only strategy used in educational settings. Pull-out was the only effective way to reach individual students in the ways they needed. Co-teaching is a new way to reach each student in a given setting while working with small groups at a time and being able to bounce ideas off another experienced professional. This professional is typically seen as a special education teacher. According to Friend and Cook, working with a paraprofessional or a parent helper is not considered co-teaching (2010).

Co-teaching is a method that both educators share everything, from the amount of time they give instruction, the responsibility for success or failure, the teaching of lessons, and the time spent researching and finding effective methods to teach concepts. It is a partnership that must be with someone you can trust and a person you get along with (Jarzyna-Ingles, Schletz, Young, 2014). Trust is the most important part of co-teaching because it is the foundation for effective practice in education. This is going to look different in each content area. In a reading

classroom, it may have two teacher working together in the same classroom. In a math classroom it could have two teachers working together, but not in the same setting. According to Lawrence-Brown (2004), differentiated math interventions help to create a classroom in which all learners can be successful.

Subjects and Settings

Students for this research study were selected randomly from the current fifth grade class at Warroad Elementary. The study will be conducted in a math classroom and these students will not be treated any differently than their classmates. It is important for these students to not feel any differently than their classmates.

Description of subjects. Participants of this study will be selected from a fifth grade class and will include different genders, ethnicities, and familial backgrounds to reflect the population diversity of a small town in rural Minnesota. Table 1 containing demographics of participant's ethnicities can be found in Appendix A.

Forty-three percent of participants are currently living with both of their parents in a married situation. The other fifty-seven% of those participating come from divorced, separated, or re-married households. The participation sample of this study will contain approximately 30 fifth grade math students. At the beginning of the year, they were randomly placed into two groups within the program, a push in or pull out group. One group has fifteen students, while the other will have thirteen. For the purpose of this study, the group with pull out intervention will be Group V and the group with the push in intervention will be labeled Group M.

Selection criteria. Each of the students selected was chosen based on their acceptance into a specialized program called ADSIS. ADSIS stands for Alternative Delivery of Specialized Instructional Services and can only service up to twenty % of any given grade level. The Warroad School District has held this grant for the past six years and is currently in their seventh year. The program is a way for the at-risk students to get more individualized instruction. Each of the participants were selected for the program based on their previous years Minnesota Comprehensive Assessment (Minnesota Department of Education, 2018) score and the ultimate goal of the program is to improve that score. The program uses a variety of techniques to see student gains in each math and language arts, one of the ways is specific interventions. The participants of this study are each going to be using the intervention strategy, but in different ways. One group will be pulled out from the class, while the other will be in a class the is co-taught with the classroom teacher and an ADSIS teacher.

Description of Test. For this study we are using the AIMSWeb computation test. The AIMSWeb computation test is a test to look at the basic mathematics skills such as addition, subtraction, multiplication, and division. The purpose of this test is to monitor the basic math fact fluency of any grade level, we are using the fifth grade test which is based on math concepts taught that year. This test is given once a month for the duration of the school year and is monitored throughout each month. It focuses on the basic math fact fluency use in addition, subtraction, multiplication, and division. This test is given to all students within the class setting and has a time limit of eight minutes for each student. Each test is graded by the ADSIS teachers and passed on to me to see their progress each group is making. Each question is worth a different amount of points, some questions are worth 1 point, some 2 points, and

some are worth 3 points. The tests never get harder, rather the numbers change each time to give some variation. This test is done in the classroom with all the other students to keep the results as consistent as possible.

Informed consent. Each participant in this study have had permission slips sent home to parents and have been returned with parent consent to use their data in this research study. Each participant will remain anonymous and will only be identifiable to the person conducting the research. Each student will be identified using an M/F (for male/female) and their last initial. In the case of any student with the same last initial, they will be identified by the first two letters of their last name. Letter of consent attached in Appendix B.

Review of Literature

While preparing for this study, scholarly journals about co-teaching were looked at to get a firm grasp on the method. Books were hard to find, but online publications were easier to find and use. So many scholarly journals are located online at this point in time and were very useful in finding information for this research study.

At-risk students come from all kinds of backgrounds. It can be a socio-economic, cultural, linguistic, or gender issue that is causing students to have these issues. They are not at fault for these issues, but the majority of the time their education is placed as a low priority. It is our job as educators to help these students reach their full potential. We have to look at the best methods of reaching these students. The co-teaching model is a strategy that is being becoming popular in schools.

Inclusion is a teaching strategy that is meant to make everyone in a classroom feel wanted and as a part of the class. When students are singled out by being pulled out regularly

they start to feel as though they are not a part of the class. Inclusion is a concept that is based on a model that was adopted as part of the *Individuals with Disabilities Education Act* (P.L. 94-142, Section 1412[5] [B]), says that students who have been identified as having a disability must be educated in the least restrictive environment. Although students with a disability are important, there is another group of students that are not getting the attention they deserve and are also deserving of the same philosophy. This group of students that are being lost in the gap is the average students with lower income households. This literature review will examine some recent studies and studies from the past that provide research to support best practices for the best teaching strategies.

The definition of inclusion for purposes of this literature review is the act of keeping and including students with disabilities in the regular classroom environment. This sounds like a pretty straight forward concept, but there are a lot of moving parts and the right support is needed within a classroom for this to happen. Co-teaching is a way to keep students active and engaged with different ways of learning new concepts. In the world of co-teaching, each teacher is responsible for a whole class of students, but is working with small groups within the class. Each school does this differently and each school is individualizing their practice to fit the needs of each student.

Co-Teaching Research

The research of the effectiveness of the co-teaching model is very scarce and the resources are limited. While not every strategy of co-teaching is with a special education teacher, that seems to be what most of the research is on. In 1987, Vaughn and Boss conducted a study that examined the perceptions of general and special education students of

the resource room setting. Vaughn and Bos found that the majority of students liked the resource room setting more than the general education setting. Even the students without disabilities found that the resource room would be a good place to work and learn because it is more individualized (Klinger, 1998).

In 1989, Jenkins and Heinen conducted a study that included special education students as well as non special education students. In this study, participants found that they were more embarrassed by the co-teaching model (push-in). They felt as though individualized instruction in the classroom was much more embarrassing than if they were in another room getting better instruction.

“Current research on inclusion has indicated that almost fifty % of students with disabilities are educated in the general education classroom” (Bouck, 2006). This is an important statistic because it shows that each special education student has individual needs, just as the students without disabilities do. Each person is different and learns best in a different way than their peers. The studies are rare and each study seems to have a different result, but most are saying the the co-teaching model is the most effective way for all students to feel included.

Perceptions of the Push-In/Co-Teaching Model

Each method of educating students has its strengths; the co-teaching method is no different. Students in a special education class setting do not get to socialize with their peers often enough to gain the socialization necessary to exist in the real world. “By remaining in the general education classroom, students with disabilities have more time to make and sustain

friendships with their nondisabled peers, and enjoy increased instructional time as they are not traveling from the general education classroom to the resource room” (Klinger et. al., 1998).

Not everyone is in favor of the co-teaching model. There are some that are very vocal with their objections. There are some educators and other citizens that worry that the education of the other students in the classroom that are not labeled ‘Special Education students’ will suffer because the content will be more catered to the students with disabilities (Klinger et.al., 1998).

Not all students that need more help are labeled that way. The English language learners are a group of students that commonly get forgotten about in the model of inclusion. In an article it talked about the challenges that ELL students are facing. It discussed the main problem is that inclusion is expected in a mainstream school, even though sometimes it makes things more difficult. ELL students are learning a new language and are still expected to perform in a general education classroom even though they may benefit more from a pull-out intervention time to work on their needs. (Pearson, 2015)

Conclusion

The concept of co-teaching is still a relatively new in the world of education. This review examined the still new practice of co-teaching within a classroom setting. It is designed to meet all of the needs of the students in a given classroom. There is a lot to consider about the co-teaching model and each person has a different perspective about the practice. “The future of co-teaching may be dependent on increasing the quantity and quality of research on it and placing co-teaching in the larger context of school reform and improvement” (Friend & Cook, 2010). The few studies researching the model are telling me that co-teaching is the most

effective way to reach all students needs. Of the two main intervention strategies, the push in model of inclusion is the most effective for student success.

Hypothesis Statement

The researcher hypothesizes that the co-teaching intervention strategy will show to be the most effective for student growth regarding math fact fluency. This study will show the amount of growth using the co-teaching model versus the pull-out method of intervention. Co-teaching is a new way of thinking that can become a popular way of teaching.

Chapter Two

Research Questions

When looking into conducting this study it was important to look at what the purpose of this was. It was important to identify that the study would look at overall math fact fluency and the effects of co-teaching. It was important to include students of all academic backgrounds to keep the study realistic and get a good sampling of current students.

1. Do individual math interventions in a small group, with a qualified educator, have a significant effect on math computation growth?
2. Is co-teaching for all levels of math students (above grade level, on grade level, and below grade level) effective for math progression based on STAR Math test scores and Minnesota Comprehensive Assessment test scores?
3. Will co-teaching in a math classroom provide significant growth compared to small group pull out interventions when evaluating math computation for below grade level students?

Research Plan

Methods and rationale. For this study the AIMSWeb computation test is being used as the primary source of measurement because it is the most accurate to show the most growth per student. Of the tests the participants are taking, this is the test with the less stress and low-stake as well. The STAR Math test and the MCA are stressful and therefore would not yield accurate results. The AIMSWeb computation test being used in this study is being used because it is a good sample of student work. Students have eight minutes to complete twenty-nine questions worth varying points. These problems are adding, subtracting, multiplying, and

dividing. These are all operations that all fifth grade students should have coming into the school year. On the test there are a few concepts that are covered throughout the year. The goal of this test is to constantly see progress of five or more points during each of the final eight tests. This shows that they are becoming more fluent and can recall math facts quicker each month. The ideal goal is to have all students have 100% computation by the end of the school year. Before the first test, the students are told that they will be taking the test more than once throughout the year and they set their goals each time to try to do better each month. This creates the responsibility change from the teacher to the student to improve themselves.

Schedule.

This study is scheduled to last an entire school year. The plan is to monitor the results over the course of a full academic school year. The students will take the tests nine times per year. One test a month is reviewed and the results are recorded on a spreadsheet to be used throughout the study. Over the course of the year students will be monitored through the use of other methods such as homework, chapter assessments, assignments, and in class participation. This data will be used to examine the effectiveness of the intervention strategy being used. The use of the STAR math test will be for the flexible grouping within the classroom with the teacher or another professional in the room at the time. This will be used for a more personalized learning so that the intervention is more effective.

Ethical issues

The stress of the test could be considered a possible ethical issue in this study. Students who know they need to perform, feel a great deal of stress and therefore it could cause some anxiety when it comes to taking the monthly test.

Anticipated response

Possible responses to anxiety or stress is to postpone the test a day or so until they are more comfortable. The researcher could also have them test separately to reduce test anxiety. Discussing the results with the participant could also reduce stress and anxiety to show that there is no stress on them, it is just to prove a point.

Chapter Three

As the research study was in its early planning stages a few important details needed to be decided. In this section you will find the intentions of this study by seeing the results of the study after it was completed. The main purpose of this study was looking at math fact fluency growth over a certain period of time when using specific interventions. This study focused on one set of classroom co-teachers in a rural Minnesota school setting.

Do individual math interventions in a small group, with a qualified educator, have a significant effect on math computation growth?

Data, which can be found in Appendix A, began to be collected in September and has continued each month after that. According to the research collected from September to October, eleven of fifteen students increased on their AIMSWeb computation test. From September to November, twelve of fifteen students increased on their AIMSWeb computation test overall. This means that some students decreased the number of questions answered correctly from September to November. To show an accurate growth or decline, this study needs to be continued over the course of the rest of the school year.

This data suggests that the small group intervention is not necessarily effective. This data can be interpreted in two ways. The first is that the small group instruction in the classroom is not as effective as originally thought, but I don't think that applies to this situation. The second is that the amount of small group time is important and if a group isn't getting as much time, their scores can suffer. This group of students at the time of the November test had gotten minimal intervention help due to lack of time in the schedule and other projects being done to enhance the learning of a given concept. The consistency of making time each

day for small group instruction is important to see improvement in computation growth for any group of students.

Is co-teaching for all levels of math students (above grade level, on grade level, and below grade level) effective for math progression based on STAR Math test scores and Minnesota Comprehensive Assessment test scores?

The students included in this study are a mix of above grade level, on grade level, and below grade level. There is no data to report on this yet as the students in this study have not taken the STAR Math test since September and will not take it again until December. This is a research question that needs to be studied over the course of a full school year and not just a few months. In Warroad, the STAR Math test is used as a benchmark rather than a diagnostic tool that is constantly being taken each month.

Without specific data on this subject, no definite conclusion can be made. It is still believed that co-teaching is the most effective way of teaching for most teachers. It is a good way of providing the opportunity for students to learn from different educators and get a lot of small group instruction (time allowing). Behaviors are less frequent and learning is happening more often and of better quality.

Will co-teaching in a math classroom provide significant growth compared to small group pull out interventions when evaluating math computation for below grade level students?

This study provided little opportunity to evaluate pull out interventions at this time. There will be pull-out interventions over the course of the year, but up to this point it has been minimum. When deciding to write this paper and decide on the questions, the author had a much different vision for what the study would entail and how to go about researching the

topics. There have not been enough chances to research the growth of co-teaching versus pull out interventions at this point in the school year. In May, the author will be able to give an update, but at this point there is no adequate data to supply.

The amount of time that a student has with an educator is important, but it is still unclear as to the effectiveness of small group instruction (in class or out of class). A student must want to learn their math facts before any amount of instruction will help them. Math facts are the foundation of math; without the facts their building will crumble.

Conclusions based on the data.

At this point in time, I believe that the data is correct. Unfortunately, the time frame of this study did not provide adequate data/results. The amount of data was not as much as originally thought and there would need to be more thorough examinations done to determine the effectiveness of co-teaching. The intention of this study was to analyze the effectiveness of a specific type of intervention, but the time frame and limits of the study made it impossible at this time to come to a definitive conclusion.

Chapter Four

In every study it is important to look at how to proceed once the study is completed. It is a step that would be very easy to overlook for a new researcher. Deciding whether to continue the study or to make changes is a difficult decision and one that requires a lot of thinking and planning. Each study is conducted for a certain amount of time and the researcher can decide to extend or end depending on what is being shown or collected.

Action plan

I will continue to monitor the effects of small group intervention through co-teaching throughout the rest of the school year, through May when the last benchmark test is taken. In May, each student will have taken 9 AIMSWeb computation tests, 3 benchmark STAR Math tests, and all students will have completed the Minnesota Comprehensive Assessment. These data sets will be able to definitively determine the effectiveness of co-teaching in a classroom rather than pull out interventions.

Between November and May, a lot of things will happen to solidify the results of this study. More small group instruction and more chances for students to receive more direct instruction. Students will begin to get into routines and get more comfortable with these new situations. Most importantly, students will get more comfortable having multiple adults in a classroom to be used at any time to improve their learning and comprehension.

In an article in the International Journal of Whole Schooling, a study was conducted about the possible issues with the co-teaching process. According to this study eighty-two percent of teachers said that they did not have the necessary skills to correctly implement the

co-teaching process (Chitiyo, 2017). I would agree with this statement because co-teaching is relatively new and is a more personalized approach to learning.

The next steps are to begin reflecting on how this process went and record my thoughts about the study. It will be helpful to start recording my thoughts now that the research is current and the issues and faults can be easily identified. The hope in recording reflections is to come back in a year or so to continue a study similar and avoid the mistakes to make the study more qualitative than quantitative using thoughts and reactions more than data. Data can only show so much, but the reflections of those involved can show even more.

Chapter Five

The hardest part of conducting any research study is to share the results of the study. It is such a personal thing and to decide how to share the results is crucial to making the study a success or not. A study is not always going to show the data that was originally intended and it is acceptable for that to not happen. This study did not go the way it should have, but the results are valid and should be shown to others regardless of the outcome.

Plan for sharing

The next steps in the research is to extend the length of the study and possibly extend the amount of participants to get a better sampling of students. The study did not last as long as originally intended and the data did not show any significant growth or decline at this point. A research study should be conducted for longer than just a few weeks or months. It should be a continuous project over a longer amount of time than was allotted for this study. Instead of using data from seven weeks, I intend to use data from a full year of learning and testing in order to come to a reliable conclusion as to whether co-teaching is the most effective intervention strategy for students.

Once the research is complete, in the spring of 2019, the plan is to speak with my administrator about presenting the research to elementary colleagues. Having the opportunity to show this data during teacher workshop to small groups of teachers in grades kindergarten through second grade, and third through sixth grade would be greatly beneficial. It is important for this data to be spread and to share any information gathered that could benefit student learning.

This study should be done in each grade level in many content areas to show real growth. This type of study should be extended to include multiple grade levels with many sets of co-teaching pairs to show the many ways that co-teaching could work and also to show that it can be done effectively. It is important that the pairs of co-teachers work well together to show accurate data. This study could be improved by using a different pair of co-teachers that work better together and it would be wise to be impartial and not be part of the actual study. This study was a learning process and there are many improvements that can be made throughout the process in the future.

Reflection

Conducting this study was a process that I never thought I would enjoy. While I enjoyed it, I would have liked to change a few things along the way to improve the study as a whole. I would have included journaling from myself and finding out more about my student's thoughts over the course of the study. I would change the test to be less data driven and more reflection driven based on student responses because this study can include more than just student data because test scores can be affected by human nature (Capaldi, 2005). The most important thing that I would change would be to work with another co-teacher or to observe a neutral set of co-teachers that is more likely to show data that is less skewed because the person conducting the study was involved in the study. I enjoyed the process and thought it would be good when it was over, but now I want to continue doing more of this study to get a better glimpse of whether co-teaching is really effective for student interventions.

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Appendix A

Table 1.0

Shows the different ethnicities and genders of students included in the study.

Participation Demographics

Asian	36%
American Indian	11%
Caucasian	68%
Girls	79%
Boys	21%

Table 2.0

Score from September to October.

12/15	Increased
2/15	Decreased
1/15	Stayed the same

Table 2.1

Shows whether students increased, decreased, or stayed the same from September to November.

11/15	Increased
1/15	Decreased
3/15	Stayed the same

Appendix B

Participant Assent for Participation in a Research Study

Co-teaching: Is the co-teaching model an effective strategy for students

Invitation to Participate

You are being invited to participate in a study on how students learn. The purpose of this study is to find out if keeping students in the classroom with more educators is more effective than an educator taking a group of students out for small group instruction. You were selected for this study through a random drawing of students in fifth grade. If you decide to participate, you will take one test per month that all students in fifth grade will take. This study will not affect any of you directly, but it can provide insight for future educators and how they can be more effective. This study will take place over approximately four months. I am requesting permission to use your child’s test scores on the given test as data in the research study. The scores and data being used in this study will be locked in a storage cabinet for three years following the study and then will be destroyed. In this study your child will only be identified as male or female with the first initial of their last name. Outside of the test proctor and the person grading the test will know the identity of the student taking the test.

Your decision whether or not to participate will not affect your future relationships with Warroad Schools. If you decide to participate, you are free to discontinue participation at any time. Please feel free to ask questions regarding this study. You may contact me at any point if you have any additional questions at 218-780-6013 or michelle_sokoloski@warroad.k12.mn.us. You can also contact Dr. Renee Harmon, Assistant Professor at Minnesota State University Moorhead at 218-477-2545 or renee.harmon@mnstate.edu.

You will be offered a copy of this form to keep. You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time after signing this form should you choose to discontinue participation in this study.

Thank you,
Michelle Sokoloski,
5th Grade Math Teacher

_____ I consent to allowing my child’s test data to be used in this research study.

_____ I do not consent to allowing my child’s test data to be used in this research study.

_____	_____	_____	_____
Student Name	Date	Parent/Guardian Signature	Date
_____	_____		
Student Signature	Date		