

# **Are Two Heads Better Than One? : The Effects of Co-Teaching in the Math 8 Classroom**

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## **Abstract**

*A co-teach model was put in place in an 8<sup>th</sup> grade classroom for an 18 week period to see if student grades would improve. The math instructional specialist acted as the second teacher in the classroom. During the second 9 week period students charted their progress to see if having an additional teacher in the classroom had an effect on their performance. One of the teachers kept a journal of challenges and triumphs over the 18 week period. The students' grades, along with pre-assessment and post-assessment data for each Power Standard was compiled and disaggregated for conclusions of the effects of co-teaching. Students were surveyed and interviewed about their experiences and opinions regarding the co-teach learning environment. It was concluded that students' mastery of student expectations significantly improves when a second teacher is introduced in the classroom. Students generally had a positive view of the co-teach setting and preferred to have two teachers in the classroom. The teachers found the hardest obstacle to overcome was time spent planning. When adequate planning time was set aside the co-teach relationship was more effective.*

## **Background/Context**

One of the many jobs a math instructional specialist has is that of co-teacher. According to Felux and Snowdy (2006) in *The Math Coach Field Guide*, "co-teaching is a form of action research, where a teacher and a math coach together investigate a question related to mathematics instruction (Page 77)." They are both working with students to improve the quality of instruction in the classroom. This definition is contrary to those who view co-teaching as the marriage of a special educator and a general educator in the inclusion classroom setting. Over an 18-week period, the co-teach model described above was instituted in an 8<sup>th</sup> grade math classroom of 22 students. These students ranged in age from 12-14 years. The class chosen had the lowest class average for this teacher over a prior 18-week period. Chris Spisak remained in the role of the general education teacher while, Anna Davila, a math instructional specialist,

acted as the co-teacher. During the collaborative teaching process the following questions were addressed:

- Does collaborative teaching have a positive effect on student achievement for Math eight students?
- What challenges or benefits do teachers and students face in a collaborative teaching classroom?

The emotional, physical, mental, and educational needs for middle school students consistently change from that in their elementary years. Most research addresses co-teaching in the elementary school. The teachers' goal was to conclude whether or not this is the best approach to help middle school students improve. The district hired over 20 new math instructional specialists last year. If the collaborative teaching model is effective, then the campus math specialists should be used in this capacity to increase student achievement across the district.

## **Literature Review**

### ***Models of Co-Teaching***

According to the Fort Bend I.S.D. website “students experiencing difficulties in the regular classroom should have access to research based instructional interventions provided in the general education program”. Co-teaching is a research-based strategy that can manifest in a variety of ways. A few of the variations are described in a study by Cook & Friend (1996).

The *one teach, one assist* model consists of one teacher assuming major teaching responsibilities and the special education teacher providing individual support as needed. This is the most common model of co-teaching used in classrooms during the initial year of a co-teach

relationship. While studies do not suggest that this is the most effective method for veteran co-teachers, it is recommended for the first year. The downfall of this method is when the special educator takes the role of the teacher aide and not the student aide. Since Chris and Anna were first year co-teachers they chose to mainly use this model and pay close attention to their roles in the classroom.

*Station teaching* occurs when several learning stations are created where the co-teachers provide individual support at the different stations. In this model the co-teachers are not teaching together, but rather in separate stations. Students may rotate through the stations or teachers can rotate from station to station. This model is not one that would be used in middle school on a daily basis, but rather when the lesson deems it necessary. Some students find it difficult to work in groups and are not responsive to this type of co-teaching.

In *parallel teaching* teachers teach the same or similar content in different classroom groupings. Students with difficulty in math and language benefit from parallel teaching when each teacher is in a different room teaching. Students benefit from the smaller student-to-teacher ratio and from the different teaching styles. One of the downfalls of parallel teaching in the same classroom is when both teachers have strong voices it can be very distracting to the students. Students with attention deficit disorders have a difficult time in parallel taught classrooms.

Another method of co-teaching is *alternative teaching*. One teacher may pull out a smaller group of students to a different location for a short period of time for individualized instruction. This method is beneficial to help differentiate for students who may need further instruction before moving to independent work. In this study, we used alternative teaching several times, supplementing the one teach, one assist model, to help re-teach and review

concepts that students did not understand based on post-assessment data. The students were responsive to this method and felt successful after being re-taught concepts. A disadvantage of alternative teaching occurs when the general education teacher continues to teach new concepts while several students are out of the classroom in alternative groups. Those students then have to catch up on missed content.

Lastly, *team teaching* occurs when both co-teachers share teaching responsibilities equally and are equally involved in leading instructional activities. The teachers each take turns teaching, grading, communicating with parents, and planning. Veteran co-teachers are encouraged to move toward this model as both become comfortable of the content and effective teaching strategies.

### ***Effects of Co-Teaching***

According to Sandholtz (2000), in a university study on collaborative education partnership, the primary goals of team teaching are joint planning, joint instruction, and joint evaluation. The initial aim of the program was to improve the professional growth of student teachers; therefore the primary goals for the team teaching component were directly related to student teachers' professional growth: to increase collaboration, to encourage experimentation with new teaching strategies, to enable observation of colleagues in a classroom setting, and to foster collegial analysis of instruction. While going through the co-teaching process this semester, Chris and Anna focused on improving collaboration, encouraging new teaching strategies, and analyzing the effectiveness of their instruction.

Shy-Jong Jang (2006) conducted a study on the effects of team teaching upon two secondary teachers during a twelve week period in a school in Taiwan. According to the study the average final exam scores of the students receiving team teaching were higher than those of

students receiving traditional teaching. When surveyed about their improved performance, the students attributed team teaching to their final exam performance. However, some students found learning two different ways caused confusion in solving math problems. Overall, more than half of the students surveyed considered team teaching superior to traditional teaching. The main conclusion of this study was team teaching does improve student achievement significantly.

While team teaching the teachers faced the following difficulties when teaching: different teaching personalities, different classroom management techniques, use of different materials, different teaching strategies leading to student confusion, planning and scheduling, cooperation from administration, and cooperation from parents. In our experiment we will focus on which of these difficulties we face and on how to best overcome these difficulties.

### ***Strengthening the Co-teaching Relationship***

In *Strengthening Your Co-teaching Relationship*, Jan Stivers (2008) outlines several research-based strategies used to help promote a successful co-teach relationship. Effective coteaching relationships often evolve in stages (Gately & Gately, 2000), and coteachers can take steps to help their relationships flourish (Cramer, 2006).

Effective planning and instruction is essential for successful coteaching. The hardest obstacle is finding enough time for collaborative planning. To create collaborative planning time, some districts hire substitutes. One substitute replaces the special education teacher for the day, and the other floats to substitute for the general education partners, allowing each coteaching pair to work in depth for up to half a day (Stivers, 2008). This planning procedure can take place once a month or once a grading period depending on availability of funds. Different planning tools are available to help coteachers divide responsibilities and plan accordingly. Effective coteach teams adapt their planning tools to fit their needs. Teachers also

need to lobby for instructional materials that support coteaching. Differentiated instructional materials provide access to general education curriculum for students with cognitive disabilities (Kame'enui and Simmons, 1999). Teachers can help their supervisors understand that to provide the content and format adaptations that allow your students to progress in the general education classroom you depend on ready access to high-quality books, software and manipulatives (Lenz & Schumaker, 1999). Some other strategies to promote instruction are trying new models of coteaching, using your time strategically in the classroom, and reexamining the layout of your classroom to be sure it continues to be well-suited to your evolving coteaching practices (Stivers, 2008).

Coteachers also run into differences in opinion about assessments and grading. One of the benefits of assessment in the coteach classroom is that students can get feedback twice as fast. In providing feedback about student learning, these brief assessments also offer indirect feedback on the effectiveness of different instructional strategies you and your coteacher is using (Stivers, 2008). Grading can pose issues if expectations are not clarified. It helps to develop rubrics and guidelines cooperatively and then use them to score a few papers together. A good idea is to split the grading in half and each review the others grading to insure fairness and equity. Effective coteachers have a sense of shared responsibility for all students, so both partners are able to grade any student's work (Arguelles et al., 2000; Magiera et al., 2006).

When one teacher is teaching in another's classroom feelings of inadequacy can surface. Teachers need to have both names posted on the door, they need to both feel like they have ownership of everything in the classroom, and both be willing to acknowledge and address problems early. Lieberman and Miller (1999) note that teachers "often become masters at denying conflict dismissing and disagreements as a 'communications' problem", but problems

are more manageable if dealt with promptly and transparently. Some times there are issues that will have to be “let go” of, but the major differences need to be brought to the table and discussed.

Lastly, teachers have to remember that many teachers have been in their situations. As educators we sometimes forget to draw on other’s experiences and expertise. One of the most helpful tasks coteachers can do is to attend workshops together to help build camaraderie and go watch master coteachers at work in their own classrooms (Stiver, 2008).

For the purpose of this study Chris and Anna used the one teach, one assist model for the majority of the experiment while incorporating the parallel and alternative teaching models as needed. Student grades and surveys were used to measure the effectiveness of the co-teach model much like the study done by Shy-Jong Jang. It was interesting to compare this study’s results to those from past studies. During the 18-week period the teachers used self reflection to assess how planning, differences in opinion and personality, and levels of expertise play into their effectiveness as a team.

### **Methodology**

The researcher chose to use second-person action research for this process. “*Second-person action research* is collaborative and aims to better understand the issues or phenomena of a group. The goal of second-person action research is often to improve the dynamics of a group of interrelated individuals, such as a teacher team (Brighton, 2009).” This study used a mixed-method design, incorporating both quantitative and qualitative techniques (Jang, 2006). Quantitative measures were used to analyze the relationships between student achievement and the co-teaching process. Qualitative measures were used to analyze the challenges the co-

teachers faced during the process. The main data included student surveys, student's scores, and teacher reflections.

### ***Participants***

The subjects of this study were a group of 24 students in an 8<sup>th</sup> grade math class at a suburban school in southeast Texas. In the class of 23 students, 10 students were female and 13 were male. In the class, 66% of the students were Caucasian, 25% were Asian, and 8% were Hispanic. 4% of the students in the class were considered to be economically disadvantaged. The general education teacher, Chris, was chosen to participate as the general education teacher because he was new to the school and had no prior professional relationship with the math specialist, Anna. Both teachers were certified to teach mathematics and held Bachelors of Science degrees in their respective field. The class of students chosen was the lowest performing class period for Chris during a prior 18-week period. Student grades were reviewed and discussion was had about which class would benefit the most from the addition of another math teacher.

### ***Procedure***

The teachers taught together two times a week for 18 weeks. During a majority of the classes Chris acted as the direct instructor and Anna was available to clarify the instruction and answer questions from the students, following the one teach, one assist model. During 40% of the class sessions students were divided into ability groups. Using the alternative teaching model, the higher performing group was left in the classroom to receive further instruction from Chris and the lower performing group was pulled out of the classroom to receive remediation from Anna.

### ***Data Sources***

For research question 1, “Does collaborative teaching have a positive effect on student achievement for Math eight students?” data sources included class report card grades and pre- and post-assessments of power standards. The students’ grades from the first two nine-week periods of the 2008-2009 school year were compared to the last two nine week periods. The first two nine week periods were taught using the traditional teaching methods of one teacher. Refer to Appendix A for the grade correlations.

During the 2008-2009 school year students took pre-assessments and post-assessments on each of the Power Standards taught. The assessments taken before the co-teaching model was introduced were analyzed to see if the percentage of students scoring *Proficient* on the post-assessments was lower than the percentage of students scoring *Proficient* after the introduction of the co-teach model in the classroom. Refer to Appendix B.

For research question 2, “What challenges or benefits do teachers and students face in a collaborative teaching classroom?” data sources included a journal of the math specialist and surveys of student’s opinions on co-teaching. The two co-teachers kept an online blog about their weekly experiences with collaborative teaching. The teachers agreed to be transparent and communicate about any obstacles they were faced with. Refer to Appendix C for some of the blog conversations.

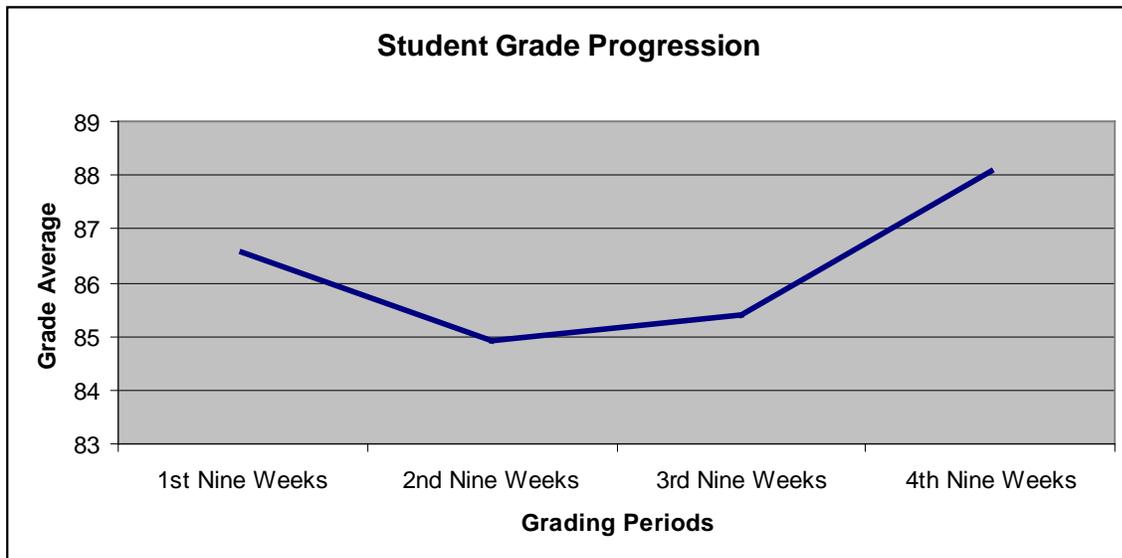
The students’ challenges and opinions were assessed with a survey using the Likert scale of measurement. Students reflected at the end of the 4<sup>th</sup> Nine week period regarding their feelings about having two teachers in the classroom. Refer to Appendix D for an example of the student survey.

### **Data Analysis and Findings**

The results were reported in three parts addressing the effect of co-teaching on student grades, the perception of co-teaching by the students, and the challenges that teachers face in a co-teach partnership.

### ***Scholastic Response to Co-teach Process***

After an 18 week period of co-teaching it was concluded that the co-teach model did significantly affect students grades (Figure 1). The class average after the first semester was 85.74. Upon completion of the first nine week period of co-teaching the class average was 85.39 and the second nine week period was 88.09. After the first nine week period of co-teaching, 52% of the students showed an increase in their math nine week average. After the second nine week period of co-teaching the percentage of student improvement increased to 70%. In total, 16 out of 23 students improved their grades by the 4<sup>th</sup> Nine Week Grading period. Refer to Appendix A for the 4 Nine Week Grade Progression.



*Figure 1.* Student grade progression.

When looking at pre-assessment and post-assessment data, there were significant increases in the number of students who scored proficient on the post assessment for each Power

Standard taught. In Table 1, the mean percent of students scoring proficient on a post-assessment with the traditional teaching model is 72.6%; while, in Table 2, the mean percent of students scoring proficient with co-teaching increased to 88%. Based on these statistics more students scored proficient when the co-teach model was instituted in the classroom.

Table 1

*Pre-Assessment and Post-Assessment Data without Co-Teaching*

	Pre 8.1A	Post 8.1A	Pre 8.2B	Post 8.2B	Pre 8.3B	Post 8.3B	Mean Post
Percent Proficient	30%	67%	26%	82%	10%	69%	72.6%
Percent of Increase		37%		56%		59%	

Table 2

*Pre-Assessment and Post-Assessment Data with Co-Teaching*

	Pre 8.11B	Post 8.11B	Pre 8.12A	Post 8.12A	Pre 8.12C	Post 8.12C	Mean Post
Percent Proficient	50%	79%	17%	89%	57%	96%	88%
Percent of Increase		29%		72%		39%	

***Student Response to Co-teach Process***

The results from the students in Table 3 correlated very closely to their performance in the classroom. In the survey 60% of the students felt like co-teaching helped them to improve their grades. Upon reviewing their actual grades 70% actually improved. The class had a predominantly positive attitude toward the co-teaching model in math. 78% of the students responded that they prefer to have two teachers in the classroom. They did not feel that the additional teacher in the classroom was a distraction and liked having the additional person in the room to help answer questions and clarify instruction. They responded that the co-teacher helped them succeed in math class. There were a small amount of students who did not respond well to the co-teach situation. One student responded that they felt like the two teachers were

“competing for power in the classroom.” The teachers felt that she did not respond well to their attempts to add humor to the class.

Table 3

*Percentages of Student Response to Survey*

<b>Statement</b>	<b>Agree</b>	<b>Disagree</b>
1. The co-teacher in the classroom helps me succeed.	74%	26%
2. I prefer having two teachers in the classroom.	78%	22%
3. Having two teachers in the room makes it more difficult to focus.	17%	83%
4. I like having an additional person in the room to answer questions.	74%	26%
5. I feel like my grades are improving because of having two teachers.	60%	40%

***Teachers Response to the Co-teach Process***

During the co-teach process, both teachers had a positive outlook on the general process. The journals revealed some underlying themes.

***Lack of Planning Time***

Both teachers felt the lack of planning time during the process prohibited them from using other co-teach models than the *one teach, one assist model*. While they did meet once a week to plan with the grade level, more time was needed to fully explore the benefits of the co-teach model. The assessments and grading procedures were chosen by the grade level and set by the school administration which led to no frustrations regarding that issue.

***Feelings of Inadequacy***

This was Anna’s first time as a co-teacher in the role of the assistor. She previously taught with the co-teach model as the general education teacher. For her, the feelings of inadequacy surfaced early but were quickly shifted when the students responded well to her presence in the classroom. Below is her third week entry.

“This week I've had a paradigm shift in how I view my role in the classroom. In the past I've thought that being the "one to provide the instruction" was the most important role in the classroom. I'm re-evaluating this stance. I think the role of coach is much more effective. I've really liked being in the role of walking around the room and answering student questions as they work. I'm able to see their thinking and provide immediate feedback on how they are doing (Week 3 blog).”

### ***Personality Differences***

Lastly, the personality difference was the most common issue between the two teachers. Anna could tell that Chris was easily frustrated with the class when students would not respond to questions he posed to the class.

- My concern is that I could tell Chris was agitated with some of the kids today. I don't know if that is stress from school or home. I'm glad he had some time to talk with them one on one and let me do the coaching today (Week 4 blog).
- This week I had a chance to talk with Chris about some of his idiosyncrasies. He talked about fitting in and wanting to do a good job. I think as a co-teacher it is good to know these types of personality differences (Week 5 blog).

Although they had differences in personalities, their ability to be professionals and communicate openly about it, enabled the two to grow and work better together.

### **Conclusion**

This study provided evidence that the co-teach model may be a great source of short-term intervention in the 8<sup>th</sup> grade math classroom. When asked about the process, the students had a positive outlook on the co-teaching process and liked having the second teacher in the room to

help clarify and answer questions. In the future, the process may be more beneficial if it is started at the beginning of the school year and is carried out every day of the week. While these results were not as significant as they had hoped for, they have seen the co-teach model be effective and; therefore, are seeking out ways to replicate the study on a larger scale.

In the article, *Strengthening the Co-teach Relationship* (Stivers, 2008), the argument was made that early co-teach relationships encounter the following problem areas: lack of planning time, differences in opinions on assessment and grading, feelings of inadequacy in the partnership, and differences in personality. Above all else, planning time and personalities were the two biggest obstacles that the two teachers faced. However, their good communication allowed them to work through differences.

The limitations of this study were the single classroom of students chosen to work with and the short time of the study's duration. Also, the general educator did not voice his opinion in the blog so the conclusions were one-sided. Some students in the class chosen were low performing and seemed to have issues of motivation that the co-teach partnership could not conquer. Many of the students were unresponsive to questioning and would not produce work representative of their capabilities. Upon receiving their scores on the Texas Assessment of Knowledge and Skills, 100% of the students in this class met standard and 58% were commended. This led us to believe that the students are capable of on grade level work, but are choosing not to do it. The co-teach model was a somewhat effective method to use with these kids, but perhaps a tangible reward system such as a "no homework pass" for good class participation would have been more effective.

### **Reflections and Action Plan**

This action research process was the teacher's first attempt at conducting a study and reflecting on the educational process. They learned about the necessity for multiple groups to compare during the studies and about how the project plan that must be concluded before the study begins. They believe that had they completed the background, literature review, and methodology section of the project before beginning, they would have had a clearer vision for how the study should be conducted.

This study has opened many questions for their continued research on the co-teach model. There are too many successful studies to stop with this one.

Next year they would like to start a consecutive three year study on how effective the co-teach model is in transitioning the special needs student from the resource classroom to the general education classroom during the middle school years. They would like to design a third person action research study to look at how the students in grades 6<sup>th</sup> through 8<sup>th</sup> grade respond to the co-teaching model. The study would address the effects of teacher gender, inclusion, and looping with the students.

The students showed amazing growth from the co-teach class in this study. Although the results were positive, the study needs to be refined. They look forward to sharing their results.

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### Appendix A Four Nine-Week Grade Progression

Student	1st 9wk avg.	2nd 9wk avg.	Semster Average	3rd 9wk. avg	4th 9wk. avg.
1	91	95	93	95	92
2	87	78	82.5	84	82
3	89	86	87.5	81	81
4	87	85	86	87	86
5	98	90	94	92	94
6	88	93	90.5	87	90
7	92	88	90	78	83
8	91	86	88.5	87	83
9	85	92	88.5	94	98
10	78	70	74	93	92
11	96	82	89	92	94
12	92	90	91	87	95
13	76	75	75.5	70	73
14	81	91	86	91	92
15	76	79	77.5	86	94
16	76	88	82	87	89
17	88	86	87	90	97
18	90	85	87.5	83	88
19	92	89	90.5	85	86
20	83	73	78	80	83
21	87	89	88	76	94
22	86	83	84.5	85	89
23	82	80	81	74	71
Averages	86.57	84.91	85.74	85.39	88.09

## Appendix B Pre-Assessment and Post-Assessment Data Correlation

Student #	Pre 8.11B	Post 8.11B	Pre 8.12A	Post 8.12A	Pre 8.12C	Post 8.12C
1	N	P	P	P	N	P
2	P	P	N	N	N	P
3	N	N	N	P	Y	P
4	N	P	N	P	Y	P
5	P	P	N	P	Y	P
6	P	P	N	P	Y	P
7	N	P	N	P	Y	P
8	P	P	N	P	Y	P
9	P	P	P	P	N	P
10	P	P		P	Y	P
11	P	P	N	P	N	P
12	P	P	N	P	Y	P
13	N	N		N	N	N
14	P	P	N	P	Y	P
15	P	P	N	N	Y	P
16	P	P	P	P	Y	P
17	P	P	N	P	Y	P
18	N	N	N	P	Y	P
19	N	P		N	N	P
20	N	P		P	N	P
21	N	P		P		
22	N	N	N	P	N	P
23	N	P		N	N	P
24	N	N	N	P	N	P
<b>Percent Proficient</b>	<b>50%</b>	<b>79%</b>	<b>17%</b>	<b>89%</b>	<b>57%</b>	<b>96%</b>
<b>Percent of Increase</b>		<b>29%</b>		<b>72%</b>		<b>39%</b>

## Appendix C Co-Teacher Blog/ Conversations

The following is samplings of the blog by Anna during the 8th grade math co-teach experiment.

***Tuesday, February 3, 2009***

### Week 1- Motivationally Challenged

We are currently using the co-teach model of Chris being the main instructor and me being more of an instructional aide. I think the kids enjoy having someone to immediately answer questions when they have them. I taught most of these kids their 6th grade year, so they are comfortable with me as a teacher. I'm coming in on Tuesdays and Thursdays to co-teach with Mr. Spisak. I'll be interested to see how there tests came out on Friday. Is there improvement? Will we see any with me just being in their one week? It seems that there is a lack of motivation for these students in class. They are not engaged and really hard to get going. I'd like to start using some strategies that get them out of their seat and help their affect. Chris relayed that one of the girls asked if I was coming back on Wednesday to help. It's nice to know that the students do notice when the class is changed up and when an addition to the class does help.

My frustrations lie in knowing strategies to help the affect of the classroom and not being able to implement them right away. I know that additional planning is going to be needed. I think I'm going to need to go in during his 1st period class to see the content taught and then actually co-teach during 2nd period. I can't wait to do some of the actual instruction in the class.

***Thursday, February 5, 2009***

### Week 2- The Problem with Volume

Today went very well. The students are working on volume of 3-D shapes. I can tell that they are happy to see me when I come to class now. One of the students stopped by my office this morning to see if I would be there. Chris and I were able to divide and conquer today. He spent time conferencing with the students about their TAKS Release scores while I helped the students complete a worksheet on volume. Triangular prisms really trip them up. They aren't sure what the base is and what the height is. The also forget that the area of a triangle is divided by two. I'm glad I roamed the whole class period to answer any questions possible. My concern is that I could tell Chris was agitated with some of the kids today. I don't know if that is stress from school or home. I'm glad he had some time to talk with them one on one and let me do the coaching today. I would still like to see some activities incorporated that get the kids out of their seats. They are still a bit motivationally challenged. I know there has to be something we could do to help them. Maybe even let them use calculators? I am enjoying co-teaching in the classroom and feel that the kids are getting to benefit a lot from having two teachers present.

***Tuesday, February 10, 2009***

### Week 3- Paradigm Shift

This week I've had a paradigm shift in how I very my role in the classroom. In the past I've thought that being the "one to provide the instruction" was the most important role in the classroom. I'm re-evaluating this stance. I think the role of coach is much more effective. I've really liked being in the role of walking around the room and answering student questions as they work. I'm able to see their thinking and provide immediate feedback on how they are doing. Today we discussed with the class about our "experiment" with two teachers. I wonder if knowing we are charting their progress will have any psychological effect on how they act in math. I think they are curious about the study and will have more questions as time goes on. Good. Chris wonders if having another teacher will increase how much they rely on the teacher versus taking responsibility for their own learning. I don't see this as of right now. I see students seeking clarification in their work and students who need confidence in the fact that they are doing something new correctly. I think this will be really good for those students. I got our first round of data today and it doesn't look severely affected, but we will see what the next few weeks hold.

**Thursday, February 19, 2009**

**Week 4- Probably Probability**

This week the students are learning about independent and dependent events and how they differ. I really can't wait until they start doing the experimental probability with actual hands-on activities next week. I really like helping the students and am interested in seeing if the averages come up. I think they appreciated getting immediate feedback and I thought it was great that by the end of class we knew that all of them were catching on. So, I am posing a new name for the presenter vs. the aide model. I think it should be the presenter vs. the explainer/assessor model. In this class I don't feel like the aide at all, more like the clarifier. I hope Chris feels the same way. I think a co-teach model would be an answer to many classrooms that aren't successful with just one instructor. Some classes are needier than others. It's too bad that there isn't enough funding to support this model outside of the special education setting. Until next week.....

**Monday, March 23, 2009**

**Week 5 - 3/12/09 late entry**

During the week of 3/12/09 the students worked on graphs and looking at types of graphs. While Chris worked on a review with the students I was able to pull some out into a small group and work on the information one-on-one. This week I had a chance to talk with Chris about some of his idiosyncrasies. He talked about fitting in and wanting to do a good job. I think as a co-teacher it is good to know these types of personality differences. Spring Break was 3/18-3/22 and I think a break is in order for everyone.

**Monday, April 6, 2009**

**Week 7 - 3/31 April Fools**

This week was great. On Tuesday I worked one-on-one with a student on solving sequences and algebraic equations. It's nice to have the freedom to pull students when the need arrives to fix a problem as you see it. On Wednesday, Chris and I were able to pull a great April Fool's joke on the kids. I think this lightened the mood a bit. They took a quiz on algebraic sequences, and I do believe that there will be a few who don't do well. On Thursday, I pulled the students who did not do well on the quiz to re-teach and show them some tricks on how to solve the algebraic problems. TAKS is next week and so I really think that they are mentally full. After TAKS I would like to re-shuffle with Chris a bit and possibly start to help the same students every time. I think then we might see an improvement. However, I am frustrated that we aren't seeing much improvement in the scores.

