

Why work together? Collaborative conversations lead to student success



Sonja Johnson and Staci McCafferty
Columbus Public Schools

Keywords

Teacher collaboration, cooperative learning, student collaboration, differentiating instruction

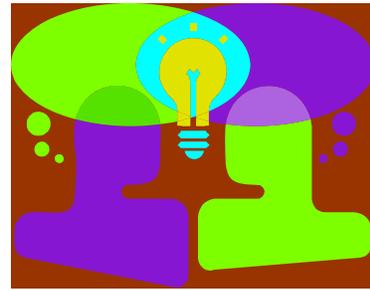
Abstract

This study underscores the importance of teacher and student collaboration. Two teams of second graders were used in this study to determine if student collaboration would help promote success in mathematics for high achievers in urban classrooms. Through observation, student journals, and assessment, we found that students can work independently of the teacher and actively assist each other when organized planning and good teacher collaboration are present.

Table of Contents

A Conversation Begins	2
We Keep Talking	2
Setting	3
Marinating in the Literature	4
Collaborative Relationships	7
Student Conversations Begin	8
Data Analysis	10
References	13

A Conversation Begins



The first day of school can be a very scary time, especially when you are a new teacher. Both the authors were not sure how they were ever going to get through the first day of their teaching careers. We were excited. We were nervous. We were scared and felt alone. Then we met each other and realized that someone else was feeling the same way. From day one, we knew we were going to be able to count on one another.

We were in adjacent classrooms. Now in a normal setting, this would include walls. However, our school did not have that luxury. Only our desks and a bookshelf separated our rooms. This is where our conversation began.

The beginning years of teaching can make you or break you, especially in an urban district. The relationship that we formed in the first years of our teaching careers is what, we believe, “made us.” For four years, we planned lessons, shared ideas, taught each other’s classes, and kept each other’s head above water. We thought we would always teach side by side. Then, one day, Sonja decided to move on.

We Keep Talking

Although we were going to be teaching at different schools, it was important to us to maintain our collaborative relationship. We continued to talk and e-mail each other daily and provide the support that we had become so used to. During one of our discussions about our students during the 2004-2005 school year, we discovered that we were both experiencing difficulty teaching to the wide range of abilities in our classrooms. Our higher ability students were finishing work ahead of the rest of the class and our time was spent focusing on the students who had trouble working independently.

As a result of our discussion, we felt that it was imperative that we begin to address the variety of learning abilities, not only through teacher collaboration, but also through experimentation with student collaboration.

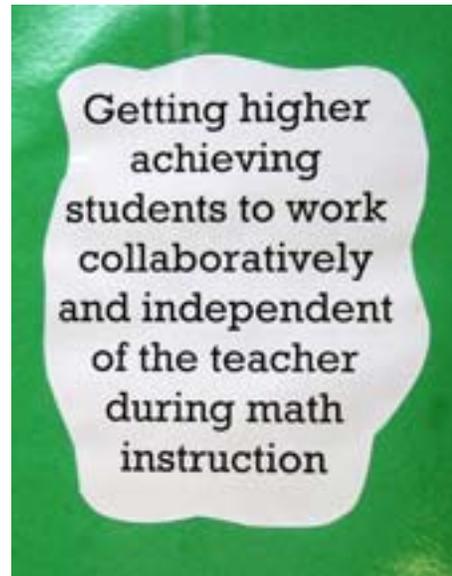
Setting

The two second grade classrooms in this study are located in the Columbus Public School District.

This district consists of 145 buildings, which accommodate 64,000 students. The student demographics are as follows: 61.85% African-American, 32.97% Caucasian, and 5.18% other ethnic minorities. Sixty-four percent of the students are

eligible for free or reduced priced lunch (<http://www.columbus.k12.oh.us/>). Our classroom demographics mirror the district's, with the majority of the students being African-American. Class size ranges anywhere from 20-25 students. The layouts of these classrooms are very similar because both schools were designed in an open space configuration to encourage cooperative learning and team teaching.

The children in this study were a part of two groups, one in each classroom. Staci's group consisted of all boys. Each one read on or above grade level and scored average to above average in math on the *Metropolitan Achievement Test, 8th Edition (MAT 8) Short Form* (Harcourt Educational Measurement, 2000). Each boy exhibited leadership qualities and an innate curiosity. For example, they would dominate class discussions and ask questions that would create "teachable moments," carrying the lesson to the next level. An example of a question one of the students asked during a lesson on



doubles: “ $12+12=24$, so that means that $12\times 2=24$, right?” The boys were all very eager to learn.



Sonja’s group consisted of three girls and one boy. They also scored average to above average on the mathematics section of the *MAT 8*. Each student possessed a competitive nature and demonstrated enthusiasm towards

learning mathematical concepts. For example, they were constantly competing with each other for the opportunity to answer the daily math problem. However, very early in the year, these students seemed to lose their enthusiasm during regular math activities. This became apparent when these students would repeatedly say, “I’m done,” and ask, “What do I do now?” They were finishing work completely and correctly far more quickly than their classmates.

In order to figure out how to challenge our students, we had to immerse ourselves in the available research on teacher collaboration and collaborative learning.

Marinating in the Literature

The battle of trying to reach each and every student every day can often be a losing one for teachers. As educators attempt to win this battle, it is important to have an arsenal full of methodologies and interventions. Many teachers rely on methods that are evidence- based and often learn these from colleagues.

A study conducted by Lawrence and Pauline Leonard argued that the ultimate goal of teacher collaboration is to enhance student outcomes (2003). They surveyed 238

teachers and found that many believed increased teacher collaboration would result in more successful student outcomes. However, these teachers also felt they were not given adequate time to collaborate. This was also the finding in a study conducted by Briscoe and Peters (1996). They worked with 24 teachers during a three-week summer program and found that one teaching circumstance common to all teachers in the study was “lack of opportunities for them to share ideas about teaching and learning with others” (p.58). Once teachers made a commitment to set aside personal time to collaborate, they saw changes, not only in their teaching, but also in their students’ learning.

Collaboration fosters change and provides opportunities for teachers to learn from one another. It also provides comfort and reassurance when making difficult teaching decisions. Arnold (2000) notes: “Teachers who participate in such collaboration gain confidence, feel better prepared, and become more proficient” (p.51).



Teachers feel more at ease making changes when there is someone else to support them. An excerpt from an interview conducted for the Briscoe and Peters study illustrates this point:

With science, having somebody else there, especially for me, I wouldn't say I'd still teach the same [old] way, but I would probably have given up by now if it was just me trying to change against everything else. (p.60)

Teacher collaboration has direct benefits for children, educators, and schools (Donaldson&Sanderson, 1996). Sarah Picard (2005) realized this after conducting action research in her classroom. Picard came to understand that her students’ progress would not have happened had she “not done the teaching and planning that grew out of the work

[we] did together” (p.464). Through their conversations and collaborative planning, Picard and her colleagues made their teaching more effective.

Learning Conditions

- I will stay on task at all times.
- If I must go in and out of the classroom, I will do so as quietly as I can.
- I will not bother other students while I am doing my research.
- If I have a question or a problem, I will wait my turn to ask my teacher.
- I will try my best at all times.
- I will share what I have learned about my topic in an interesting way.

I agree to these learning conditions and I will try my best to follow them.

Student Signature: Abdulla
Teacher Signature: [Signature]
Date:

Learning, by definition, is a social activity. However, in many classrooms across the country, learning takes place as an isolated activity. Students are praised for working quietly and on their own. But, if learning really is a social activity, then collaboration must occur. Berk and Winsler (1995) stated: “Vygotsky suggested that what we should be measuring is not what children can do by themselves or already know but rather what they can do with

the help of another person and have the potential to learn”(p.26).

Research shows that students who are taught by classmates retain more than if taught by teachers (Jacob, 1999). There is evidence that collaborative learning is linked to gains in critical and creative thinking, positive attitudes toward subjects, social skills, and self-esteem. While many teachers fight using the collaborative model because, they believe, it is too time consuming, they are missing out on the gains that could be made.

According to Berk and Winsler (1995), peer interaction stimulates cognitive development when children merge perspectives and truly cooperate in problem solving while working toward a common goal. Collaborative learning promotes higher-order

thinking skills and requires students to be able to explain their thinking. When this occurs, they are more aware of how they think and learn and are able to become active participants in the learning process.

Collaborative Relationships

As our conversations continued, we discovered how much we had learned from each other through our collaboration and we wanted our students to benefit from each other in the same way. We were experiencing difficulty challenging our higher ability



Goals of Collaboration Project

We decided to place our higher ability students into a group that would work together daily during math instruction. The students we chose had the highest scores on the *Target Assessment Pretest, 2004-2005: Mathematics, Grade 2* (Columbus Public Schools, 2003) and were also the students who were finishing work ahead of their classmates. These students needed to be challenged in order to keep them from becoming bored with math.

We asked each of our students to sign a contract stating that they would do their best, stay on task while not interrupting the rest of the class, and work independently. These contracts were obtained from Susan Winebrenner's book, *Teaching Gifted Kids in the Regular Classroom* (2001). During the one-hour math block, the groups were given specific tasks to complete independently of the teacher and the rest of the class. These

students. So, we thought, why not try challenging our higher ability students using collaborative groups? We were hoping to create an environment where our students would work together and learn from one another, while becoming less dependent on us.

tasks included solving a math puzzle cooperatively, completing worksheets independently, and journaling about the day's experience. The groups were given a math puzzle to solve in the first twenty minutes of the period. They were instructed to work together and listen to each other in order to solve the problem correctly. After the problem was solved, the students would write out their answers individually and explain how they solved the problem. Individual work consisted of worksheets on a particular concept or maneuvering a math website and writing a review of it for other students. During journaling, students would report on the days' events and list any questions or suggestions they may have had for the next day.

It was important to us to create a collaborative environment for our students. We wanted to continue our collaborative relationship as well. Through team planning, weekly meetings every Sunday, and daily e-mails, our relationship continued to grow. We took turns planning weekly lessons, bounced ideas off of one another, and shared strategies for improving student achievement. During this time, we came to realize the importance of continuing to collaborate, and we saw our students coming to this realization, also.

Student Conversations Begin

Not only were we observing our students becoming more interdependent, but they were also writing about it in their journals. These journal entries appeared on three different days in February and March and show how the group members were starting to rely on each other.

Sarah: Today we helped each other a lot. We didn't even ask the teacher for help!
(February 22)

Sally: Me and Sarah worked together. It was more harder because Sam wasn't in the group today. (February 24)

Sandy: The math puzzle today was very hard. We needed a lot of help so we helped each other. We all wrote an answer down and covered it. Then we showed our answers and talked. We decided on an answer and it was right. (March 4)

However, this was not the case in January. The students in both groups struggled with how to communicate with each other. These students were used to working independently and not having to answer to anyone but the teacher. Now they were being asked to communicate their knowledge to fellow students, and this proved to be a difficult task. The following journal entries illustrate this point:

Jason: The group had problems talking but the rest was fine. (January 14)

Josh: The group work o.k. We didn't help each other a lot. Jim watched the hamster and wanted to work alone. (January 18)

Jim: The group did not work together because I said I didn't want to be in the group because they did not let me share my answer. (January 20)



Since we were both seeing similar issues arise, we decided to conduct a few lessons on working collaboratively. These lessons took place outside of the math block and involved the entire class. The lessons

included team- building activities such as creating a group story that was written one sentence at a time, one group member at a time. After conducting these lessons and speaking with our groups about the contracts they signed and the expectations we had, their behavior started to change. We would like to believe that our influence caused our students to change. However, it may very well have been that they had started to build the

trust necessary to work collaboratively. These groups were becoming interdependent and were becoming successful at learning on their own.

Data Analysis

Although we were seeing changes in our students' behaviors and attitudes, we were eager to see if this would transfer to academic achievement. We wanted to show that working collaboratively and independently would not hinder progress but rather would lead to greater success. We chose to look at three units of instruction: money, probability, and fractions. These three units were taught between the months of January and March. Students were given very little guidance from us, but rather had to depend on help from the group.

The groups followed the schedule we described during each one-hour math block. They were not given any more or less time than their peers to complete work. Each group was given three clothespins (one red, one green, and one yellow). If the group had the green pin displayed, it meant they were having no trouble at all and the teacher was not needed. If the yellow pin was displayed, the teacher was needed, but only when she got a chance. If the red pin was displayed, the teacher needed to get to the group immediately. This process was used to deter the group from interrupting the rest of the class during instruction. The process proved to be very successful with only four red pins ever being displayed.

After each unit of instruction, students were tested on their skills. Each group was given the exact same test on the exact same day. The following table illustrates their achievement across the units.

Figure 1. Achievement across units

STUDENTS	FRACTIONS UNIT TEST	PROBABILITY UNIT TEST	MONEY UNIT TEST
Sally	95%	90%	95%
Sarah	95%	90%	100%
Sandy	90%	95%	100%
Sam	100%	100%	100%
Jason	95%	100%	95%
Josh	100%	100%	100%
Jim	100%	100%	100%
John	100%	100%	100%

Our goal was to create a way for our students to become collaborative learners who were independent of the teacher. In order to reach that goal, our students needed to maintain an average of at least 90% on unit tests. Had their averages dropped below 90%, we would have felt uncomfortable letting them continue to work on their own. The unit test on money had a pass rate of nearly 100%. Two students scored below 100%, but remained above 90%, which was what we were hoping for. The fraction unit test did not receive scores as high as the other two, but the students did maintain a rate of at least 90% accuracy.

To Be Continued

When we first began this journey, we were both very skeptical. We wanted it to work and we were willing to give it our best shot. However, we soon realized that it



was going to take a huge commitment from us in order for this collaboration to work. We sacrificed each and every Saturday or Sunday for three months. We sent hundreds of e-mails back and forth seeking information and support. We shared our successes and our failures. We spent hours on the phone planning and strategizing. But once we found a system that worked for us, things ran smoothly.

The burden of planning math instruction each and every week was lifted. We were able to focus more on other subjects because our time was not needed to plan for math. There was always that feeling of relief when we realized that next week was not our week. Our collaboration was benefiting our students and us.

Teachers are often very wary about turning the reins over to someone else, let alone turning them over to their students. However, as we discovered, not only does it lessen your load and relieve stress, but it works. We were able to learn from each other, while observing our students doing the same. They were also given ownership over their learning, which made them feel more in control of their education. These students began to exhibit pride in their work and were genuinely concerned for how their teammates were progressing.

The students were very eager to continue their collaborative groups. However, March brought three weeks of district and state testing. During this time, we decided that we would suspend our groups. Our students were continually asking when they were going to get to work as a group again. They had accomplished what we wanted them to. These students now enjoyed working together, wanted to collaborate, and they now trusted and cared for each other.

The collaborative model has worked so well for our students and for us that we have many more questions that need to be answered. Can this work with lower-ability students? Will the effects be as great as they are with higher-ability students? What about mixed-ability collaborative groups? Is it possible to team more teachers across buildings rather than across classrooms? Can this be integrated into other areas of instruction? If so, which ones?

So many questions, so little time. We have committed to continuing our conversations in the hopes that we can find the answers we are looking for. So for now...To be continued.

References

- Arnold, P. (2000). Supervision of student teachers and participation in a collegial study group: Teacher professional growth. In E. Meyers & F.O. Rust (Eds.), *What matters most: Improving student achievement* (pp. 51-53). New York: National Teacher Policy Institute.
- Berk, L., & Winsler, A. (1995). *Vygotsky and early childhood education*. Washington D.C.: National Association for the Education of Young Children.
- Briscoe, C., & Peters, J. (1997). Teacher collaboration across and within schools: Supporting individual change in elementary science teaching. *Science Education*, 81, 51-65.
- Columbus Public Schools, Academic Achievement Support Service. (2003). *Target Assessment Pretest, 2004-2005: Mathematics, Grade 2*. In Ohio Academic Content Standards Mathematics Grade 2S Pretest. [Scottsdale, AZ]: Evans Newton.
- Columbus Public Schools. (2005). Available at: <http://www.columbus.k12.oh.us> .
- Donaldson, G.A., & Sanderson, D. R. (1996). *Working together in schools: A guide for educators*. Thousand Oaks, CA: Corwin Press, Inc.
- Harcourt Educational Measurement. (2000). *Metropolitan Achievement Test, 8th Edition (MAT 8) Short Form*. San Antonio, TX.
- Jacob, E. (1999). *Cooperative learning in context*. New York: State University of New York Press.
- Leonard, L., & Leonard P. (2003, September 17). The continuing trouble with collaboration: Teachers talk. *Current Issues in Education*, 6(15). Retrieved November 12, 2004 from <http://cie.edu.asu.edu/volume> 6/number15
- Picard, S.. (2005). Collaborative conversations about second-grade readers. *The Reading Teacher*, 58(5), 458-464.

Shiotsu, V. (2000). *Math games: for ages 6-8*. Los Angeles: Lowell House Juvenile.

Winebrenner, S. (2001). *Teaching gifted kids in the regular classroom*. Minneapolis, MN: Free Spirit Publishing.

Wolf, S. (1995). *Money activity book*. Vernon Hills, IL: Learning Resources.