February 6

In tonight's class we completed an activity with beans and pasta that was most interesting. I can't wait to do this activity with my students. Initially, I was converting the values of each item and was doing the math in written symbolic form. When our group decided to attempt the assignment using only the manipulatives and the bartering system, the activity became much more meaningful. I am anxious to see how my students respond to the activity. In the past, I have found that once students master the symbolic method, they are hesitant to investigate the concrete model. Hopefully, I can persuade them to investigate this bartering method because they will certainly gain a greater understanding of the place value system in doing so.

The next activity was a group problem solving activity with the "married couples" problem. One of our group members was very successful in determining the solution and explaining it very clearly using a pictorial method. We were also able to solve it algebraically, but to be honest, the pictorial method was MUCH clearer!

These were both meaningful and interesting activities that will be of use to me in my classroom.

February 13

It was most interesting to see the various methods used to illustrate the Salt Lake City problem. I am always fascinated when I ask my students to draw a
picture or diagram to show how they solved a problem. As in our class, many methods usually arise. It is a great way to “see” student’s thinking.

Walking through the article was also very enlightening. You certainly made me stop and think about how all of our math is based on certain assumptions, and I had never thought about how these assumptions may be restricting our thinking.

February 20

Tonight’s discussion of what we gained and what we lost as we added various types of numbers to our number system was enlightening. This is the kind of discussion I would love to hear in my classroom. Of course, it rarely happens, but this was a good reminder to me to continue to arrange for times when it could happen! Additionally, it made me think about the various sets of numbers more thoroughly than I had before. In the past, I had simply looked at these as a list of types of numbers but had never analyzed their contents. I think I would like to attempt this assignment with my students.

We also were shown the Duplation method of multiplication. This too would be something great to share with my students.

Step 1: Set up two columns with the two factors to be multiplied.
Step 2: Half the first column until the result is one.
Step 3: Double the second column for the same number of rows.
Step 4: Cross out side by side even numbers.
Step 5: Total the remaining numbers in the second column.
Example: $81 \times 29$

\begin{align*}
  81 & \quad 29 \\
  40 & \quad 58 \\
  20 & \quad 116 \\
  10 & \quad 232 \\
  5 & \quad 464 \\
  2 & \quad 928 \\
  1 & \quad \underline{1856} \\
  & \quad \underline{2349}
\end{align*}

As I struggled through the "homework" assignment on matching numbers to their appropriate set (natural, integers, rational, real or complex), I was amazed at how such a simple activity could humble me. Does the problem, or the solution, determine the set of numbers? I wrestled with this for quite some time. This was a great assignment!
February 27, 2002

I had to miss tonight’s class as I was sick. Fortunately, one of the teachers from my school shared her notes. I really like the Percent fractions and Decimal fractions activities. I will certainly use this with my students in hopes to clarify percents and fractions with them. I spent some time investigating the horn on a loading dock and pencil/eraser problems. I sure wish I had been able to attend class to discuss these problems with others. I also reviewed the five misleading statements. Christine’s notes were a great help in understanding these problems, but nothing makes up for not being in class.

March 6, 2002

We continued working together in class, but tonight were asked to work with someone new to complete activities using Cuisenaire rods. I had used these manipulatives in Math Methods, but don’t have a set for my classroom. After completing these activities, I think it might be something worth purchasing. I especially liked the activity involving equivalent rods and think it may be helpful to have students explore these relationships to develop a better understanding of fractions. The rods offer a way to model these relationships with students. Additionally, the rods would be a great tool to use when explaining and modeling the properties of numbers. Students often have difficulty when we attempt to generalize these properties.
March 13, 2002

Tonight we watched a video on Albert Einstein and are to respond to its implications on math instruction. (See submitted summary of the video.)

March 20, 2002

We discussed the implications of what we learned in the Einstein video on math instruction and the two ways people process information, Language Bound and Language free. I had a difficult time understanding the difference between these two processes at first, as I kept thinking of the way we learn instead of how we process information. We also reviewed and discussed the article on Ethnomathematics. This article looks at two views of cultural effects on mathematics. First, it discusses how math varies because of cultural differences and then discusses the commonalities of math concepts regardless of cultural differences. The examples in this article involving the study with foremen and fishermen were most interesting and reinforced the idea that students need opportunities to apply what they learn. Furthermore, it made me think that prior knowledge and experiences have a huge impact on a student’s ability to grasp mathematical concepts. Therefore, it is important to provide experiences for students who may not already have them.
April 3, 2002

The presentation this evening by Dr. Sophie Wang was fascinating. The math examples she provided were interesting, but I thoroughly enjoyed the discussion with her about the differences between the educational systems in the United States and in China. I have read with interest about these differences in the past, and have often wondered, as I’m sure many American teachers have, why students in China seem so much more motivated to succeed than American students. There is obviously much more emphasis placed on education in China and expectations to do well are combined with much competition to be able to attend the “best schools.” Competition is frowned upon in our current middle school environments, yet adolescents thrive on competition on sports teams. How do we make it “cool” to compete academically?

April 10, 2002

Another fascinating presentation! I was very impressed with Alketa Gtikuzia and found her perspective on math instruction interesting. I can not imagine living, let alone learning or teaching under the circumstances she described. Yet, students managed to learn, even though they did so out of fear. I don’t think we should scare our students to motivate them to learn, but we certainly need to do something to light a fire under many of them. Even our best students do not perform at their optimum level and there are few consequences for this. I am guilty of being too soft on them myself. This is, in part, due to the number of students I teach. It is almost humanly impossible to push every student to do his or her best every day.
Unfortunately, we count on parents to help their children realize the importance of education and in many cases that just doesn’t happen. By seventh grade, most students have figured out that they can get by doing very little.

April 17, 2002

Tonight’s opportunity to review and discuss our lesson plans was very helpful. It was also helpful to have a chance to discuss NCTM standards with other teachers, something that I wish we had more time to do. Some of the standards are very difficult to understand and having this opportunity to discuss and clarify them with other professionals was a first. Thank you! This is certainly a shortfall in our education system. Although I understand the benefits of interdisciplinary teaming, I sure wish I had as much time to interact with other math teachers, share ideas, develop curriculum and discuss the strengths and weaknesses of our program.

April 24, 2002

Tonight’s presentation by Dr. Mohammad Moazzam was very informative. I have never studied the history of algebra and Dr. Moazzam was quite an expert on the subject. It was most interesting to find out that algebra was originally proved geometrically. I also enjoyed the Petals around the Rose, Fun with Circles and Tetrahedron activities. These are the types of activities that I have so much fun sharing with my students. Thank you!
May 1, 2002

Tonight’s investigation of numbers by examining sets of ordered pairs was a new concept to me. I struggled for a bit accepting that the set of integers does not contain more elements than the set of natural numbers, but with your patience I finally was able to see it. However, when it came time to examine the problem of finding two numbers such that \( x + y = xy \) and \( x - y = x/y \), I ran into some difficulties because it had been a long time since I dealt with quadratic equations. With some help from the people around me, I was finally able to recall the rules.

May 8, 2002

Tonight we first discussed eight problems. I especially like and would use the following ones.

- Mary said that her utilities bill has experienced a 500% increase. This means that Mary’s utilities bill is 6 times what it used to be.
- Bob gave 40% of his money to Susan. From this information, deduce other information.
- Which of the following cannot possibly be the l.c.m. of 12345 and 6789.
  a. 342   b. 123456   c. 6789568   d. 8754324

The real numbers can’t be named because we don’t have enough characters. Computers can’t use irrational numbers. A new set of numbers used by computers is called computable numbers.

The problems involving percent were great! These will be very helpful in my classes.
• If I receive a 5% raise each year, what will my salary be two years from now? Let S be my salary this year. My salary next year is 1.05S and my salary two years from now will be 1.05²S.

• To increase 42 by 5%, multiply 1.05 by 42.

• If I went shopping at Boscov’s and saw a coat marked 60% off and also used a 20% coupon, how much did I pay for the coat?

• If the discount was 75% and I had a 25% coupon, do I get the coat for free?

• If there is a 50% chance of rain Saturday and a 50% chance of rain Sunday, is there a 100% chance it will rain this weekend? Then, what is the probability it will rain over the weekend?

All of these problems will be great WARM Ups to use in September of next year. They will quickly give me some insight into what my students understand!

DR. AUSTIN

I have thoroughly enjoyed this class. I would gladly enroll in any course you taught. I have been constantly reminded of why I enjoy math so much. Thank you so much for providing a non-threatening, friendly, enjoyable environment for us and for allowing us an opportunity to work together, explore new ideas, discuss curriculum and even “vent” a little. Should you ever want a chance to share your marvelous gift with a group of 7th graders, it would be an honor to have you come teach a class in my room! I honestly don’t think I have ever said that I would truly MISS attending a class, but in this case I certainly will.