

CSUS Math Project News

CSUS Math Project, 6000 J Street, Sacramento CA 95819-6120, Ph: (916)278-4785 F: (916)278-4770
<http://www.csus.edu/org/csusmp>

Time Out For the Art of Teaching

By Debbie Stetson

Have you ever been to a meeting where another educator espouses what ought to be happening in classrooms, and you think, "Uh huh, yes, but in my classroom...?" Or perhaps this summer you were dreaming about the way the next school year might go, but then someone pinched you and reminded you about meeting both the district and state standards, verifying attendance for that student you haven't seen once in 4 weeks, calling parents, preparing for the next benchmark district assessments and back to school night, developing an after school program, checking for head lice, and being late again for the staff meeting? Certainly the myriad of details in just one hour of our teaching day can bury our recognition and practice of our ART. Maybe practicing our ART ought to be more of a team effort. I don't mean that we all should be team teaching, rather that we, as a team of educators, should provide ourselves time for development of our abilities to teach WITHIN our

classroom walls- time to talk with other professionals in our classrooms about a lesson that just happened with our own students.

I have witnessed the crafting of the art of teaching many times during the course of my visits to classrooms of teachers who have participated in our Invitational Institutes. The purpose of these visits is to provide support for teachers in their efforts to develop peer coaching at their schools. CSUSMP staff members, Rick West, Scott Farrand and I, have observed or guest taught in 12 schools since the beginning of September. Many teachers have been able to arrange for other colleagues to observe also, and to participate in the debriefing discussions at lunch or after-school. Just today I taught a lesson in a 7th grade class using function machines to connect the notions of variable and solving linear equations. The classroom teacher was observing as was one of her colleagues and...

(continued on page 3)



Debbie teaching in a middle school classroom

CALENDAR OF EVENTS

CSUSMP Happenings:

- ◆ **October 19, 2002**
Saturday Follow-up meeting
9:00-4:00 in Sequoia 456
- ◆ **November 23, 2002**
Saturday Follow-up meeting,
9:00-4:00 in Sequoia 456
- ◆ **February 8, 2003**
Saturday Follow-up meeting
location TBA
- ◆ **March 1, 2003**
2003 SAME Conference
(Sacramento Area Math Educators)
in the CSUS Univ. Union Building
- ◆ **April 12, 2003**
Saturday Follow-up meeting
location TBA

Other Math Events of Interest:

- ◆ **November 1-3, 2002**
CMC (California Math Council)
Southern Conference in Palm Springs
- ◆ **December 6-8, 2002**
CMC (California Math Council)
Northern Conference @ Asilomar

"Acquire new knowledge whilst thinking over the old, and you may become a teacher of others."

--Confucious

Follow-Up Saturdays

NEXT SATURDAY MEETING: OCTOBER 19, 2002

All are invited to any of our follow-up Saturdays: former participants of our Invitational, Algebra, Geometry, and Elementary Institutes, their guests or anyone else reading this newsletter that would like to attend. If you have a colleague at your school with whom you would like to start a peer coaching relationship, or someone you are recommending to one of our institutes, please invite her/him. Remember: if you attended a summer institute with us in 2002, you can earn an additional stipend by attending Saturday Follow-Up meetings. Also, you can pick up a letter of for professional growth hours signed by Debbie on that day. Because we will provide breakfast munchies and lunch, please RSVP so that we can order enough food. You can contact Huong Nguyen, our administrative assistant, at (916) 278-4785 or csusmp@csus.edu, or Debbie Stetson at (916) 278-5951 or stetson@csus.edu. Or you can register online using the email link we send you! (contact us if you're not on the email mailing list.)

What happens at a typical Saturday Meeting?

We begin each Saturday with a problem usually given to us by Rick West or Scott Farrand. Problems are chosen so that they are accessible to all. For example the problems for the September meeting were 1) if you are to make the brackets for a single elimination tournament, what is the total number of contests necessary to determine a winner given some number of contestants, and 2) if you are to break apart a chocolate bar (without stacking), how many breaks are necessary to separate it into individual pieces? Participants are challenged to be sure of what they know and to attain a solid line of reasoning. During the morning problem solving session, some members of our staff will observe the lesson, looking for what is working. After the lesson, the observers will have a peer

coaching debriefing discussion with the instructors while the learners of the lesson (you participating teaches) are listening. In this way, participating teachers, after having just been learners, can retrace the lesson from a teacher's perspective, considering ways in which learners were involved, methods of questioning, and methods of pushing the understanding of learners to a deeper level. After the morning problem solving, we will offer break-out sessions particular to different grade levels of the teachers in attendance. These break out sessions also correspond to the separate institutes offered over the previous summer, and are taught by the instructors from those various institutes. At the September meeting, for example, there were breakout sessions about operations with positive and negative numbers, the reasoning behind the method of calculating angle measures from intercepted arcs, and ways to extend the laws of exponents. Although we recognize Saturday time is precious, we know that you will find the time spent with us valuable, and hope that you can join us.

Asilomar Mathematics Conference

Friday, December 6 - Sunday, December 8, 2002

If you haven't been to this conference, find a way to go. It offers a wide variety of workshops, talks and interactive discussion of issues in a beautiful setting at the Asilomar Conference Grounds in Pacific Grove. Many of you have heard me say this before, but the first time I attended, I was so moved to know that I was at a conference with so many other teachers trying to make their teaching better for their students. The many ideas you will hear, the kindred spirits in attendance, and the fresh open surroundings will inspire you to reflect about new things to try with your class. You may be able to find financial assistance in your school district as there

may be professional development monies available to help teachers attend conferences aimed at improving mathematics education. CSUSMP fellows will find it a great place to reconnect. If you would like more information about the conference, please go to <http://www.cmc-math.org/ASIL>. Many friends of CSUSMP and UC Davis MP and SAME will be presenting including Elizabeth Stage, Pat Duckhorn, Rita Johnson, Tom Sallee, Judy Kysh, Brian Lim, Louise Iverson, Susan Green, Fara Lee Wright, Glen Odabashian, Scott Farrand, Ken Johnson, Mary Carton, Roberta Gehrman, and Chris Borris.



Fran Gibson, our new Text Based Programs Coordinator

Support for Working With Your Curriculum

In the summer of 2001, CSUSMP, in partnership with Pat Duckhorn from the Sacramento County Office of Education, formed a team of people to create and pilot a program to connect the content of mathematics to the curriculum (in that case Scott Foresman). The original team of writers included Karen Zumwalt (EGUSD), Sara Noguchi (EGUSD) and Elaine Kasimatis (CSUS). Since then we have hired Fran Gibson, as our Text-Based Programs Coordinator, in order to... (continued on page 3)

Time Out For the Art of Teaching-
(continued from page 1.....)

... one of my colleagues, a perspective teacher. The resulting discussion about the lesson was focused on that particular lesson and on those particular students. We discussed additional questions which could be asked to spread one student's idea to the rest of the class, possible next steps for future development of the concepts of graphing, and possible connections to make in the future to solving algebraic equations. If you cannot tell, I am still thinking about the lesson. Further, in the car driving back to CSUS with the perspective teacher, I was prompted by her general question about keeping middle school students engaged all period long. Her question helped me to consider another way to engage the students for this lesson, to create more paper and pencil problems on a hand-out which would provide more time for all students to understand. We spoke about how this can be used to keep the students engaged and provide the teacher time to check in with a few students one-on-one. I know I am pontificating a bit, but my point is, that without having all 4 of us together for the lesson, none of this is likely to have happened. This all occurred in a two hour span of time. Now I am dreaming about the potential if all teachers could get such an opportunity on some sort of regular schedule, even quarterly would be valuable.

The other classroom I visited today was a 3rd grade class in which I was an observer, with another teacher from that school. The lesson bridged the students' previous understandings of fact families from their second grade experiences to checking answers on subtraction problems by adding up, to writing the "inverse" sentence for a given addition fact or subtraction fact (a district prepared task in the math workbook). In our discussion following the lesson (during recess and in the hall on the way to escort the students back from the playground) I mentioned to the teacher how effective her connections to their previous knowledge had been. Also, that I particularly liked her association of the word "antonym" as a clue for what the word inverse was about. This helped the

students make the connection that "inverse" was asking for the opposite operation. What amazed me was that she had not planned to use "antonym" to help students make that connection, but had thought of it on the spot. Our conversation helped her to crystallize the many ways in which she connected the knowledge the students have to what she wanted them to know, even using connections from other content areas.

These are but two examples of the rich discussions I have been so lucky to have had to begin this school year. Those of you who have been to a Saturday meeting, or who have participated in our Invitational Institutes understand CSUSMP's philosophy that supportive peer coaching will foster discussions between teachers which are more focused and tailored to those teachers and their students, thus making these discussions more likely to have impact the next day in the teachers' and their students' lives. I look forward to the day when all teachers are provided the opportunity to develop our craft and to practice our art.

* * * *

Support for Working With Your Curriculum-
(continued from page 2.....)

... offer similar programs to more districts using Scott Foresman, and to amend the program for use with other curriculums (Saxon and McGraw-Hill). Since June 2001, Pat and Fran, with the help of key district contacts, have been able to offer three other series of 40-hour-trainings for teacher leaders from several districts including Sacramento City Unified, Natomas Unified, Rancho Cordova, San Juan, and Robla.

To give you just a glimpse of what these programs have to offer, last week I participated in the activities on the fourth day of the latest training in the San Juan Unified School District. On that day, we were looking at important concepts of fractions and working with the mathematics involved by doing some problems. We were asked to work on 3 problems in groups and to report about the different methods we used to solve them, classifying the methods

according to the different notions of fractions (ie part-whole and ratio). Then we were asked to look at the curriculum for our grade level using the teachers' manuals and ancillary materials such as the SADEI resource booklet. We determined how the standards about fractions were addressed and which sources offered the conceptual development necessary to begin lessons, as suggested in the Mathematics Framework (page 191). These analyses were a powerful way to look at the development of fractions in the curriculum and helped identify sources within the curriculum useful for conceptual development. The final task of the day was to look at some student work of adding fractions where some mistakes were made. For each sample of student work we were asked to address the following questions:

- 1) What does this student know?
- 2) What does this student need to know in order to add the fractions correctly?
- 3) If the student were sitting with you, what questions would you ask to find out more information about what she knows?

The resulting discussion helped to identify not only questions which would help us understand what the student was thinking, but also to help the student bridge her current understanding to the understanding we wanted her to have. Moreover, as a group we were able to identify where in the standards this student was at, and to have a discussion about possible strategies to insure this student's success in her current grade level.

It is our hope that CSUSMP can broaden the number of these training sessions we are able to offer districts, which is why we are so lucky to be in partnership with Pat Duckhorn (SCOE) and to have been able to hire Fran Gibson. If you have questions about these programs you can contact me or Fran Gibson at (916) 801- 6251 or fgibson@ucdavis.edu. (Fran splits her job with us and School/University Partnerships program at U.C. Davis.)