



# The ESD SOURCE

The Newsletter of Southern Oregon Education Service District

December 2004

## Problem Solving: the Southern Oregon Math Cadre Takes a stand

**A collaborative effort by the Southern Oregon Math Cadre**

In a classroom in a small hamlet, somewhere in a rural Oregon school, the following conversation between a teacher and a classroom full of children was overheard: “Class, I have some news to share with you. In Salem a few days ago, a group of adults got together to discuss your math education

tions at any time during the school year. And what’s more, they said your teacher could give you as many chances as you needed until you were able to be successful. They decided that you just needed to successfully complete two different questions by the end of the school year. So class, what do you think?” Hands flew into the air with a battery of questions and comments ranging from, “Do we really get as many chances as we need?” to “Does this mean problem solving isn’t important?” to “That makes me feel a whole lot better; state tests always make me really nervous.” And so, the discussion started, and continued as the students and the teacher began to map out a new course.



**Brent Freeman, SOESD Teacher On Special Assignment, works with a student at Ashland Middle School**

and how we can tell if you are learning what we hope we are teaching you. The focus of their discussion was on the Math Problem Solving Test that we have you take in 5<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> grades. They were concerned that maybe we weren’t asking the questions in the right format for you to really show how well you understand the math you’ve been taught.

So, they made some decisions. First, they decided for now to stop having the state choose the questions that you are asked and instead let your teacher do that. They also decided to stop telling you what time of the year you had to work on those questions and let your teacher decide that as well. In fact, they said your teacher could decide to let you work on the ques-

Hopefully, teachers across our state are initiating similar discussions in an effort to convey to students that the state’s decision to suspend the “on demand” Problem Solving Test in no way means that problem solving is any less important. Problem solving has not been removed from the NCTM Standards, nor has it been removed from the Oregon Grade-Level Standards. In fact, it remains an integral part of all mathematics learning. Problem solving continues to reside at the center of all of math strands. It is the meeting point of skills, applications, and concepts. Problem solving encourages students to engage in tasks for which the solution or strategy towards the solution is not readily obvious. It teaches students the skills necessary for them to get started when they encounter unfamiliar mathematical situations. Problem solving skills help students to make connections between what they know and any new mathematical situations in which they find themselves.

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# Source: the Superintendent

Steve Boyarsky

## The Mission of our Profession



**A**t the conclusion of my second year of teaching freshman applied science, I asked each student to complete an anonymous course and teacher evaluation. There were many positive comments and a few critical statements from the approximately 150 students. Almost 30 years after those evaluations, I distinctly remember only one. A student wrote, “You helped me fel like sombody.” This misspelled comment made me realize the positive impact I could have on the lives of my students and helped me understand my critical role as a teacher. It was probably better that I didn’t know who wrote the comment, because I could generalize it to all students present and future. It was an “ah ha” moment for me.

Research studies, about how “at risk” students realize their potential, point to the importance of a significant adult in their lives. Most of the time it is a parent, but it may be a grandparent, a coach, a teacher, or a youth minister who serves as that caring adult. Educators have a special role to play in the lives of young people. We are in a profession entrusted with this important opportunity and responsibility.

Recently I asked Louis Castillo, one of the ESD board members, who that significant teacher was in his life. He described Mrs. Guzman, who in 8<sup>th</sup> grade recognized his potential and pushed him to achieve in school. Up to that point, Louis described himself as a mediocre student. Jim Thomas, an ESD courier driver, described the significance of Boyd Gibson, his principal at Ruch Elementary. Mr. Gibson made sure that Jim had the opportunity and encouraged him to participate in athletics and school activities. Jim says, “Mr. Gibson always looked out for me.” Ask anyone about a significant teacher and you will hear about the Mr. Gibsons, Mrs. Guzmans, the Coach Selees or the Dr. Behlers—those who motivated, showed compassion, and believed in their students.

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*“You helped me  
fel like sombody.”*

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The work educators do with young people is critically important. It is easy to be distracted by the fiscal situation of schools in Oregon. Despite this discouraging situation, every day teachers in Southern Oregon motivate students to succeed, teach academic skills, ignite curiosity, and provide intriguing lessons. The bottom line is: “helping make students feel like somebody” is still the key work and mission of our profession.

## Board Notes

The Southern Oregon ESD Board of Directors held a meeting on November 17, 2004. At the meeting the Board:

- Learned about the retirement of Joy West, administrative assistant.
- Received the financial report for the period ending October 30, 2004.
- Reviewed the superintendent’s schedule for November and December 2004 and January 2005.
- Received the audit report for fiscal year 2003-2004 from Carolyn Ryder of Isler and Company.
- Adopted and appropriated a \$2,000,000 Teaching American History Grant, a joint project of the SOESD, Oregon Public Broadcasting, and the Annenberg Foundation, to produce and distribute ten 30- minute videos focused on turning points in American history from the pre-revolutionary era to the Civil War.
- Approved the budget calendar for 2005-2006.
- Approved a contract with Sunbelt Staffing.
- Discussed the ESD’s resolution services: Special Education Services, Technology/Media Services, and School Improvement Services.

The ESD  
Source

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School Improvement Support Services

“Just because I can’t see the stars doesn’t mean I can’t reach for them.”

# Three PVI students from So. Oregon attend NASA Space Camp

By Cheri deWaard

**S**pace Camp—the very words elicit a thrill! For visually impaired students in Oregon, the thrill has been a reality for several years.

For years, the Oregon Elks Association has supported young Oregonians who have a vision loss by funding a variety of programs for these students. One of those programs is the Elks Honor School. Visually impaired children throughout Oregon apply to the Honor School by writing an essay explaining why they would like to attend, obtain several letters of recommendation, and complete an application packet. Up to ten



students throughout Oregon, and three southern Oregonians were honored. Selected students meet as a group with three Orientation and Mobility instructors from various vision programs across the state before flying to Alabama. All expenses for travel and Space Camp are picked up by the Oregon Elks.

The three students selected from the Southern Oregon Regional Program for Visually Impaired joined nine others and

arrived in Alabama (via Georgia and its hurricanes) and after seven hours of travel, arrived at about 11 in the evening and went straight to bed to regain their strength.

The next day, the students were placed in different training groups. Carlina attended the Aviation Challenge. She reported, “It was really challenging and we had to do certain things like a simulated helicopter crash, a stealth mission and Escape and Evasion (E&E). Some of the activities were at night and some during the day. The reason I got to go is because I have Retinitis Pigmentosa, which is an eye condition that causes the retina to degenerate. I also have night blindness, which means I cannot see in the night. It has been a pleasure to go and I wish I can go again!”

Anastasia attended Space Challenge. “I went on two simulated missions and I got to choose who I wanted to be. I also went on the multi-axis trainer, a chair that spins in different directions very fast. I also went off the 5DF chair (five degrees of freedom chair). It is a chair that moves slowly back and forth and left to right. I also went on the I-6 chair where I got to jump as if there is no gravity. I had a great time!”

Curtis attended Advanced Space Academy. “The thing I liked the most was scuba diving. I’d never gone scuba diving before. It showed us how we’d be in almost zero gravity.”

The experience builds teamwork, enables students with visual impairments to interact with others from many different states and countries, and provides an intensive hands-on science/math curriculum for the week.

The PVI program is appreciative of the wonderful opportunity provided these students through the generosity of the Oregon Elks Honor School. Further information and pictures of the Space Campers is available at [www.tsbvi.edu/space](http://www.tsbvi.edu/space).

## SOESD welcomes Jay Matheson

**S**OESD has a new advocate for Interactive Video Conferencing (IVC). Jay Matheson comes to Oregon from Indiana where he worked the past ten years helping schools and communities make connections that enhance student and teacher learning. Jay has taken the position formerly held by Sheryl Lipski. Building on the solid base of past use, Jay plans to help local schools find added value as they expand the uses, especially in middle and elementary schools. Using the wide variety of resources provided by SOESD, Jay also plans to assist the Technology and Media Department at the ESD deliver all types of technology services to schools. Jay has an extensive background in Indiana and Michigan working in Regional Educational Centers. He has also been involved in developing national level programs for schools involving teacher training and collaboration via distance education. In addition he has written numerous grants that have helped schools fund programs that have provided significant student learning opportunities. Jay has a Masters degree in School Administration from Northern Michigan University and advanced graduate work at the University of Kentucky, and will be pursuing a wide range of new technological opportunities for schools.



## Problem Solving (continued from first page)

Oregon has been a leader in the attempt to measure problem solving using performance tasks. In developing this type of assessment from the ground up, the field-test process has left teachers and the state struggling at times to achieve consistency from one year's test to the next, making the results not always seem fair to all students. But these frustrations and difficulties do not extend to the classroom level where teachers are able to ask lots of questions during the school year and only require successful completion of two work samples at the CIM level and one at other levels. In this setting, questions of comparable difficulty are more easily attainable and adjustments are easier to make. The key issue here is that the continued use of problem solving work samples plays a major role in the development of a student's math reasoning and communication skills and functions as a truly authentic math assessment. The suspension of Math Problem Solving as a state assessment only increases the need for problem solving work samples at the classroom level. To ignore this need is akin to removing writing from the Language Arts/English classroom. Assessing only a student's ability to come up with correct answers on a multiple-choice test in math is like assessing writing only by means of a multiple-choice test on sentence structure and conventions.

So, how then should we proceed? First and foremost, we continue to express to students the importance of problem solving. We continue to show them that it is an integral part of mathematics. We incorporate a culture of problem solving into our classrooms. We show students that problem solving is not an isolated topic taught as a separate unit, but an approach to the study of mathematics that involves curiosity, exploration, and risk taking. We do this in part by carefully considering our expectations of students. We also do this by carefully considering the types of questions we ask them.

Furthermore, we offer students numerous opportunities to engage in interesting, multi-level questions that require them to apply what they have learned in new and unique ways. We ask them to look at problems from a variety of perspectives. We give them plenty of feedback and in many forms including, but not limited to, multi-dimensional scores such as those given through the Oregon Math Problem Solving Scoring Guide. It is essential that we not abandon problem solving instruction in the absence of a state, "on-demand" assessment.

The implementation of problem solving as a state test in Oregon has done more to effect change in the teaching and learning of mathematics than any other single thing over the past decade. We need to remember this as we move to a model of assessment that may or may not include an "on demand" state test. We need to remember that problem solving is not merely an assessment, but a best practice. This is the starting place from which we should now move forward.

If you would like further information about using the Oregon Math Problem Solving Scoring Guide, teaching problem solving strategies to your students, or developing a culture of problem solving in your classroom, please contact Brent Freeman at Southern Oregon ESD (776-6771, [brent\\_freeman@soesd.k12.or.us](mailto:brent_freeman@soesd.k12.or.us)). Below is a partial list of resources for learning how to incorporate problem solving in your math curriculum.

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*Problem solving encourages students to engage in tasks for which the solution or strategy towards the solution is not readily obvious.*

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## Problem Solving Resources

National Council of Teachers of Mathematics, (2000). *Principles and Standards for School Mathematics*. NCTM Publications.

Burns, Marilyn. (1996). *50 Problem Solving Lessons: Grades 1-6*. Math Solutions Publications.

Van de Walle, John. (2004). *Elementary and Middle School Mathematics: Teaching Developmentally*. Pearson Education, Inc.

Schaaf, Oscar (Director). (1983). *Problem Solving in Mathematics: Grades 4-9*. Dale Seymour Publications.

Schaaf, Oscar (Director). (1983). *Problem Solving in Mathematics: In-Service Guide*. Dale Seymour Publications.

Moretti, G., Stephens, M., Goodnow, J., & Hoogeboom, S. (1987). *The Problem Solver: Activities for Learning Problem-Solving Strategies*. Creative Publications.

The Oregon Council of Teachers of Mathematics. (journal). *The Oregon Mathematics Teacher*. (TOMT). OCTM Publications

Teacher to Teacher (1999). *Oregon Math Performance Tasks: A Resource Kit, Grades 1-8 and 10*. Teacher to Teacher Publications

Online math resources: [www.octm.org](http://www.octm.org) and [www.ode.state.or.us](http://www.ode.state.or.us)

Please send comments, suggestions, and additions to [brent\\_freeman@soesd.k12.or.us](mailto:brent_freeman@soesd.k12.or.us)