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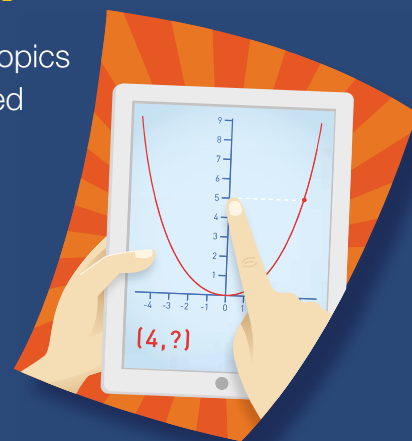
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Join Leaders in Mathematics Education for Inspiring and Thought-Provoking Sessions

Baltimore | *How to Explore the Cosmos with Just a Little Math!*

Sten Odenwald, National Institute of Aerospace

To understand the cosmos, you need a lot of math. Astrophysics and cosmology offer a rich tapestry of math challenges for your students. Traveling from the Big Bang to the present time, we will look at some of the math you encounter along the way. These mathematical interludes provide some astonishing insights into how this huge system works.

Las Vegas | *Game Changers: Rethinking the Way We Teach Math*

Karim Ani, Mathalicious; Dan Meyer, Stanford University; Eric Westendorf, LearnZillion; Jon Wray, Howard County Public Schools

What should effective and innovative math instruction look like, and how can teachers create ideal learning experiences for all students? This discussion, led by NCTM board member Jon Wray, features the perspectives of three educators whose work is transforming curriculum design and delivery, and changing the way students think about mathematics.

Louisville | *The Challenge of Making the CCSSM Matter*

Matthew Larson, Lincoln Public Schools

Adoption of new content standards alone is unlikely to reduce existing learning differentials. For implementation of CCSSM to raise the achievement of all students and close existing learning differentials, implementation efforts must simultaneously address the five paradigm shifts that will be the focus of this session.



For more information on speakers and sessions or to register, visit www.nctm.org/regionals.

editorial panel

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Teaching Children Mathematics (TCM), an official journal of the National Council of Teachers of Mathematics (NCTM), supports the improvement of pre-K–grade 6 mathematics education by serving as a resource for teachers so as to provide more and better mathematics for all students. It is a forum for the exchange of mathematics ideas, activities, and pedagogical strategies, and for sharing and interpreting research. NCTM publications present a variety of viewpoints. The views expressed or implied in TCM, unless otherwise noted, should not be interpreted as official positions of NCTM. The appearance of advertising in NCTM's publications and on its websites in no way implies endorsement or approval by NCTM of any advertising claims or of the advertiser, its product, or services. NCTM disclaims any liability whatsoever in connection with advertising appearing in NCTM's publications and on its websites.

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Information is available from the Headquarters Office regarding the three **other official journals**, the *Mathematics Teacher*, *Mathematics Teaching in the Middle School*, and the *Journal for Research in Mathematics Education*. Dues support development, coordination, and delivery of NCTM's services. Dues for individual membership are \$81 (U.S.) and include \$34 for each *Teaching Children Mathematics* subscription. Each additional school journal (*Mathematics Teacher* and *Mathematics*

Teaching in the Middle School) subscription is \$34. Each additional subscription to the *Journal for Research in Mathematics Education* is \$61. **Foreign subscribers**, add \$18 (U.S.) postage for the first journal and \$4 (U.S.) postage for each additional journal. Special rates for students, institutions, bulk subscribers, and emeritus members are available from the Headquarters Office.

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news* & views*

Welcome back!★

BY M. LYNN BREYFOGLE, TCM EDITORIAL PANEL CHAIR

One thing I love about being a teacher is that each August is an opportunity to begin anew, a fresh start, a chance to reflect on what went well the previous year and consider what might work better this year. I am revitalized by the summer and excited by the new ideas I gleaned from catching up on my journal reading.

Fortunately, journals like *Teaching Children Mathematics* have the same opportunity at the start of each volume year. The TCM Editorial Panel reflects on insights gathered through the most recent readership study and considers what worked well the previous year and what could improve. This volume year, we are happy to announce additions to the journal that we think are timely and important, including a new department called Postscript; an expanded technology department renamed *iSTEM*; and a fresh resource, Common Core Connections, in the features section.

Postscript, which you will find on the last page of every issue, spotlights a conceptually rich mathematics teaching idea that readers across the elementary spectrum will want to try immediately. We hope you will consider sharing your great ideas as well as gaining quick and easy ones to implement in your own classroom.

We have expanded the department formerly known as Technology from the Classroom into *iSTEM*, which stands for “integrating science, technology, and engineering into the mathematics classroom.” The Editorial Panel invites



The TCM Editorial Panel. Top row: Ruth Harbin Miles, Ralph Connelly, Pamela Gruzynski, M. Lynn Breyfogle, Beth Skipper. Bottom row: Drew Polly, Lisa England, Andy Tyminski, Wendy Bray. Not pictured: Judith Quander

you to share ideas and activities that you use with your pre-K–grade 6 classes to stimulate student interest in STEM fields as well as articles that offer exemplary classroom-tested ideas and insight for integrating math into the STEM curriculum.

With this August issue, we are rolling out a new feature article resource called *Common Core Connections*, which you will find at the end of each feature. Our intent is to help readers make connections between CCSSM and the content or pedagogy of the article as well as to help readers implement CCSSM and prepare for the assessments.

Of course, as in our teaching, certain activities and pedagogies remain the same. We will continue to publish a Focus Issue in October, and this year we turn the

spotlight on developing and empowering teacher leaders. We look forward to sharing with you insightful ideas from our authors to help you develop the teachers and teacher leaders in your professional community. We will also continue to run the departments you have grown to love, like Problem Solvers, News & Views, and Math by the Month.

We hope you enjoy the new additions as well as the reliable standbys you look forward to each month, but we especially hope you will help us continue to make TCM your go-to resource, both in print and electronically. If you have not already done so, consider following us on Twitter: @TCM_at_NCTM. We would love for you to join our thousands of readers and contributors in a fresh new year!

NCTM names* Executive Director

Robert M. Doucette has been selected NCTM Executive Director and will assume the responsibilities of his new position on August 15.

NCTM President Linda Gojak said, “Bob brings rich and diverse experience in leadership with mission-driven organizations, and he has a well-rounded perspective that will help guide the Council’s work.”

Read more at www.nctm.org/news/content.aspx?id=37643.

→ readers exchange

Thank you, Barbara

In February 2013, I was in a third-grade classroom, looking over the shoulders of two students who were finishing *Sunshine Math* papers that they were about to turn in. I have observed that same scenario many times this year in the schools in which I have been volunteering. I started thinking about how *Sunshine Math* got started and realized that during the same month exactly forty years ago, a brief article appeared in *Arithmetic Teacher* (the precursor to *Teaching Children Mathematics*) that suggested that if you want children to learn to solve story problems, give stars to those who do the extra work, and post the tally of stars prominently in the classroom. You will find that many children cannot resist doing the problems and earning stars for their achievement.

I tried the suggestion with my sixth-grade students but rapidly got away from including only story problems



An idea that began as a first-year teacher trying to challenge his sixth-grade students has enriched and motivated thousands of Florida’s school children.

and started incorporating all sorts of ideas related to what we were doing in class or would soon do. The “star problems” quickly became a weekly activity sheet, available to students who wanted to do extra work for visible recognition in the form of stars on a chart. I modified the types of problems over my remaining five years as a teacher, but the core process stayed the same—each activity sheet had a range of problems, from simple computation (worth one star) to challenging brain teasers (worth four stars).

Eventually, in my role as a state mathematics supervisor, I took the concept to the Florida Department of Education. We brought in a statewide

cadre of teachers and published a collection of these sheets for students in K–grade 6. In 1983, we distributed the free program, which we called *Superstars*, to schools across the state. *Superstars II*, *Smiley Face Math*, and *Sunshine Math* were all iterations of the same basic program in subsequent years. New editions were necessary to include mathematics strands that had come into prominence, such as algebraic thinking and problem-solving strategies like “working backward.”

I am amazed to realize that something that started with a struggling first-year teacher trying to learn how to challenge students in his sixth-grade classroom seems to live on and on. Sometimes the

simplest things in education are the most enduring.

I estimate that about 500,000 Florida students have used this basic enrichment program during the last thirty years, many of them for five or six years of elementary school. They have solved about 240 million problems that they would not have solved if the system had not been in place. At an average of two stars for each problem solved, school volunteers who run the program have posted about half a billion stars on charts throughout the state. Some districts have further enriched the basic program with district-wide competitions and awards for reaching certain levels of “stardom.” And who knows how many parents have become involved in their child’s mathematics work by trying to help their child think through the four-star problems. On one occasion, I was told by the parent of a child with special needs that *Superstars* had totally changed her daughter’s life. *Sunshine Math* and *Superstars* have spread to many other states also, simply by word of mouth.

It is way past time to say thank you to Barbara B. Snyder for writing, “Please Give Us More Story Problems?” in the February 1973 issue of *Arithmetic Teacher* (vol. 20, no. 2, pp. 96–98). But speaking for all those children, teachers, parents, principals, and volunteers whose lives have been enriched by the program, we salute you, Barbara! Your basic idea lives on and on. For thirty years and counting, it has been one constant in the lives of Florida’s school children.

Andy Reeves

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PS: In anticipation of your questions, no, *Sunshine Math* has not been revised to match the Common Core State Standards. That remains as another possible iteration.

Leading teachers to meet today’s challenges

BY ROBYN SILBEY, PD AND CAMPUS CONSULTANT

Today’s job market is vastly different from what it was as recently as one decade ago. In Daniel Pink’s book *Drive: The Surprising Truth about What Motivates Us*, he writes,

In the 21st-century marketplace, only 30% of job growth now comes from algorithmic work. The remaining 70% comes from heuristic work. (2011, p. 30)

This shift in job growth requires a shift in learning, which can be accomplished only if we make a corresponding shift in instruction. Student-centered classrooms that encourage rich discourse, collegial working relationships, and data analysis prepare students for the workplace.

Motivated teachers engage students, and coaches can motivate teachers to ignite their students’ passion for learning. Although treats may be used to reward teachers, intrinsic motivators yield more long-term and fulfilling results. Here are a few ideas for intrinsically motivating your teachers:

1. Build teachers’ capacity with the long-term goal of gaining more *autonomy*. Help teachers make choices that will earn them the freedom to control their schedule, instruction, planning, and data analysis.
2. Celebrate elements of *mastery*. Make teachers feel good about their successes. For example, (a) jot a handwritten note or e-mail a message that specifically describes something positive that you observed or (b) offer sincere praise delivered verbally either in private, at a staff meeting, or in front of students.
3. Help teachers feel a great sense of *purpose* in their daily work. Assist them in seeing the progress that students have made under their guidance and how their influence affects students positively.

Your leadership is critical in maximizing the potential of the teachers you coach, just as the teacher’s guidance shapes students’ lives.

Direct questions and comments about this article to rsilbey@hotmail.com.