

California Online Mathematics Education Times (COMET)

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COMET Archives (2000-2015): <http://comet.cmpso.org>

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California Online Mathematics Education Times (COMET) is an electronic news bulletin providing STEM-related news from California and across the nation, as well as information about professional events and opportunities, current educational issues, and online resources.

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ARTICLES & ANNOUNCEMENTS (CALIFORNIA FOCUS)

(1) State Superintendent of Public Instruction Tom Torlakson Outlines His Plan for the Next Four Years

URL: www.cde.ca.gov/nr/sp/yr15/yr15sp0105.asp

Last Monday (1/5/2015) in Sacramento, State Superintendent of Public Instruction Tom Torlakson was sworn in for his second term as chief of California's public school system and leader of the California Department of Education (CDE). In his inaugural address,

Torlakson outlined his **agenda for the next four years** and stated, "I want to transform our system to one known far and wide for its excellence." To this end, the superintendent **plans to revisit "A Blueprint for Great Schools,"** the roadmap for remodeling education in California that was produced four years ago and that has guided his work since that time.

"Now I want to update that road map and the priorities that must be defined and addressed," Torlakson stated. "I am very pleased to announce that Chris Steinhauser, Superintendent of the Long Beach Unified School District; David Rattray, Senior Vice President of the Los Angeles Area Chamber of Commerce; and outstanding Los Angeles teacher Martha Infante will co-chair this effort. Linda Darling-Hammond also will be deeply involved."

Other priorities include **developing a "groundbreaking accountability system..."**[which will] meet California's needs by looking at a broad range of measures defining student and school success, rather than one test." In a related statement, he praised the state's new standards in science, mathematics, and English language arts, saying that they "teach problem solving and critical-thinking skills that prepare students for 21st century jobs" and that "the new assessment system will test students on their analytical skills rather than just requiring them to fill in the bubbles and test rote memorization skills."

Supt. Torlakson **plans to expand career education.** "During my first term, we invested in hands-on and real-world learning and launched the California Career Pathways Trust. It creates programs that link academic subjects with internships in areas such as health care, manufacturing, engineering, and computer science. Our CDE Team members developed grant guidelines and have distributed the first \$250 million. Because of the success of creative partnerships from the first \$250 million, the legislature allotted another \$250 million, which we are now distributing.

"These programs bring together high schools, community colleges, and businesses to provide learning with a purpose that engages students, gives them new hope, and prepares them for college and careers. So far, 1,500 businesses have contributed by providing internships and mentorships. We see high school graduation rates of 90 percent or more. I will strongly advocate additional funding to expand these remarkable programs."

A copy of the Superintendent's prepared remarks is available at www.cde.ca.gov/nr/sp/yr15/yr15sp0105.asp

(2) Proposed Federal Regulations for the Evaluation of Teacher Preparation Programs
URL: www.federalregister.gov/articles/2014/12/03/2014-28218/teacher-preparation-issues

U.S. Secretary of Education Arne Duncan has proposed "new regulations to implement requirements for the teacher preparation program accountability system under Title II of the Higher Education Act of 1965, as amended (HEA), that would result in the

development and distribution of more meaningful data on teacher preparation program quality... States would be required to evaluate and rate all programs annually. Students enrolled in teacher preparation programs that do not meet or exceed teacher quality guidelines would be ineligible for certain federal assistance funds such as those from the **TEACH** (Teacher Education Assistance for College and Higher Education) **Grant Program**. (For California agencies' response to the proposed regulations, see the next article in this publication.)

The Federal Register (see link above) provides the text of the proposed regulations (including an implementation timeline and useful summary) and instructions on providing feedback. COMET readers are encouraged to skim the proposed regulations, which would impact teacher preparation institutions, K-12 students (additional testing), and new teachers (first 3 years of teaching).

The determination of teacher preparation program success "would be based not only on program inputs [such as admission requirements, student demographic information, and supervised clinical experience requirements,] but also program outcomes, including **the ability of the program's graduates [(new teachers)] to produce gains in student learning**. These indicators would also include employment outcomes such as **placement and retention rates of program graduates and survey data from past graduates and their employers**" (emphasis added). The goal is to create "a feedback loop between school districts and higher education [that] will not only **facilitate [teacher preparation] program improvement** [but] will also provide information that can be used, for example, by potential employers to **guide their hiring decisions** and by prospective teachers to **guide their application decisions**" (emphasis added).

The **deadline for public comment** on these proposed new federal regulations is **2 February 2015**. Because of the anticipated impact these regulations would have on teacher preparation in every state, numerous state and national education institutions and organizations have crafted responses.

Last week (1/2/2015), the **American Council on Education** (ACE) submitted a letter on behalf of 23 teacher preparation organizations to express significant **disagreement with the projected cost of the proposed plan** (see www.acenet.edu/news-room/Documents/Comments-OMB-Teacher-Prep-Regs-Costs.pdf): "Our comments are not meant to address whether or not it is an appropriate federal role to mandate state assessments of teacher preparation programs, or the means these proposed regulations would use to do so. Our specific concern in these comments is that the estimates prepared regarding the likely burden are unrealistically low..."

In the letter, ACE notes that 25 states and territories "do not have, and have no plans to develop, data systems capable of linking student performance to their educators' postsecondary preparation program" which would be an important expectation of the new regulations: "States could only identify the quality of a teacher preparation program as effective or higher if the State determined that the program's graduates produce student learning outcomes that are satisfactory or higher" (Federal Register).

One of the organizations that signed the letter from ACE, the **American Association for Colleges of Teacher Education** (AACTE) submitted a 38-page response that also took

issue with the projected cost of the plan: “In general, we find the analysis to vastly underestimate the development and implementation costs that states and institutions of higher education (IHEs) would incur if the regulations were to be adopted. The Department repeatedly, but erroneously, assumes that many states have much of the capacity in place to implement the proposed regulations...”

(https://secure.aacte.org/apps/rl/res_get.php?fid=1590&ref=res).

Additional information is contained in the *Inside Higher Education* article, “Time, Money, and Teacher Prep”: <https://www.insidehighered.com/news/2015/01/05/higher-education-groups-criticize-education-department-estimate-how-much-teacher>

(3) California Education Agencies Respond to the Proposed Federal Regulations for Teacher Preparation Programs

URL (CTC Agenda Item 6A): www.ctc.ca.gov/commission/agendas/2014-12/2014-12-6A.pdf

URL (Agenda Item 6A Audio): www.ctc.ca.gov/audio/agendas/2014-12/2014-12-6A.mp3

URL (Letter):

https://www.insidehighered.com/sites/default/server_files/files/Title%20II%20CA%20Memo.pdf

In her report at the 11 December 2014 meeting of the California Commission on Teacher Credentialing (CTC), Commission Chair Linda Darling-Hammond stated that that CTC is “in a process of really rethinking the way we evaluate teacher education and administrator preparation programs in the state. We are launching a major endeavor...to overhaul accreditation.”

Darling-Hammond then provided an overview of the proposed Federal regulations for the evaluation of teacher preparation programs. She noted that while some portions of the recommendations are consistent with CTC’s plans, others potentially conflict with the direction in which the agency is heading. She noted that **the regulations would require a value-added approach, using student test performance as an indicator of teacher effectiveness. This metric would then be used as an indicator of teacher preparation program effectiveness.** “We do not have a framework in this state as some states do that requires that or enables that,” Darling-Hammond stated. A 5-minute video of Chair Darling-Hammond’s statement is available on the CTC website at www.ctc.ca.gov/briefing-room/default.html#Chair-Report-2014-12

On the second day of the CTC meeting (12-12-2014), Agenda Item 6A provided an opportunity for Commissioners to discuss the proposed Federal regulations. CTC Executive Director Mary Vixie Sandy stated, “I think this is a very significant set of regulations.” She noted that a cost analysis of the regulations for her agency and for the California Department of Education is necessary to conduct before the January 2 deadline. She told the Commissioners, “What I’d really appreciate is the affirmation of the Commission that the Chair and I work together with the other state agencies and the administration on a coordinated state response. We will do that and we will share that information with you as it’s produced.”

Chair Darling-Hammond added, “These requirements not only pertain to the higher education institutions, they would require the state to essentially set up a test-based teacher evaluation system which the state has thus far declined to create, so it has other legal implications as well as fiscal implications--and implications regarding the federal and state roles.”

The Commission affirmed the request for the Executive Director and Chair to proceed with collaborating with other state agencies for a collective response. As a result, **an 11-page letter signed by Linda Darling-Hammond; State Superintendent of Public Instruction Tom Torlakson; and Michael Kirst, President of the California State Board of Education was produced and then submitted on 30 December 2014.**

In the letter, which is available at <http://tinyurl.com/ProposedReg-Memo2014>, the writers note that “the proposed regulations would require states and teacher preparation programs to make meaningful differentiations in teacher preparation program performance using at least four performance levels – low-performing, at-risk, effective, and exceptional – based on the following indicators:

- I. Student Learning Outcomes
- II. Teacher Evaluation
- III. Employment Outcomes
- IV. Survey Outcome Data
- V. Accreditation and Teacher Preparation Program Evaluation Measures

The implications of each of these indicators for California were discussed in the letter. Regarding the first point, the letter writers note that “**California’s K-12 student testing system would need to be expanded by 57 tests in order to cover all subjects and grade levels in order to meet the objectives of these proposed regulations...**Adding 57 tests to the current system will increase annual administration costs by \$281,647,059...”

The letter concluded with the following statement: “We urge you to reject these regulations as the extremely high cost would not provide the stated benefits of either improved accountability or transparency and would impose an undue burden on the State of California.”

If you wish to **submit a comment about the proposed regulations**, please visit <https://www.federalregister.gov/articles/2014/12/03/2014-28218/teacher-preparation-issues> (Click the “Submit a Formal Comment” button. Note: The feedback server is down for system maintenance for part of this weekend.)

(4) Free WestEd Webinar: “Literacy for the Science Classroom”
URL: www.wested.org/webinar-literacy-for-the-science-classroom

At 3:30 p.m. (PT) on **25 February 2015**, WestEd will host a free 1.5-hour webinar entitled, “**Literacy for the Science Classroom: Think, Read, Talk, and Write Like a Scientist.**” Presenters include Karen Cerwin (K-12 Alliance Regional Director, WestEd),

Kathy DiRanna (K-12 Alliance Statewide Director, WestEd), and Maria Simani (Executive Director, California Science Project).

Description: “You will learn about the science practices outlined in the Next Generation Science Standards that offer opportunities for students to develop disciplinary literacy. We will explore how reading, writing, listening, and speaking are used in the science discipline to develop knowledge of science.”

For more details and to **register** for this webinar, please visit <http://tinyurl.com/Lit4ScienceClassroom>

(5) New Report on the Performance of Students Who Repeat Algebra I

Source: WestEd

URL (Report): http://ies.ed.gov/ncee/edlabs/regions/west/pdf/REL_2015059.pdf

The Regional Educational Laboratory West (REL West) at WestEd recently published a volume entitled, “**Who Repeats Algebra I, and How Does Initial Performance Relate to Improvement When the Course is Repeated?**” The study by Tony Fong, Karina Jaquet, and Neal Finkelstein followed a cohort of 3400 Northern California (San Jose area) students from 2006-07 (when they were in grade 7) until 2011-12 (when they were expected to be in grade 12).

Of the students in the study, **44.3% repeated Algebra I**. Although most who repeated the course did so due to low grades or poor performance on the California Standards Test (CST) Algebra I assessment, **8.4%** of the students who earned an A or B also repeated the course. Among students who earned a “Proficient” score on the CST, **22.2%** repeated Algebra I.

The findings indicated that “lower performing students [(i.e., those who earn Ds or Fs in the course)] are likely to see improvements in grades and CST scores when they repeat Algebra I, while higher performing students [(those who earned Cs or better)] are likely to see improvements on some measures of performance [(grades or CST scores)] and declines on others when they repeat the course.” The authors conclude that the study findings might help provide guidance to educators on how students of varying achievement levels are likely to perform if they repeat Algebra I.

To download and read the report, visit

http://ies.ed.gov/ncee/edlabs/regions/west/pdf/REL_2015059.pdf

(6) ETS Seeks Scorers for California Assessment of Student Performance and Progress (CAASPP) Tests

The Educational Testing Service (ETS) is seeking college graduates with at least a bachelor’s degree to score students’ written responses on test items that are part of the

California Assessment of Student Performance and Progress (CAASPP), the statewide program that is managed and administered by ETS.

Beginning with the 2015 administration, the Smarter Balanced Summative Assessment in English Language Arts/Literacy (ELA) and Mathematics will be administered online to students in grades 3-8 and 11.

Scoring of these tests will take place from March 2015 through July 2015. Those who successfully pass the certification exam will be eligible to score the assessments. Raters will **score tests online** from their home using ETS's Online Network for Evaluation (ONE) system. The hourly pay for test scoring is **\$13**.

To view details about this opportunity, visit <http://tinyurl.com/CAASSP-Scoring2015>

California educators who are interested in scoring ELA for grades 6, 7 and 8 or Mathematics for grades 3, 4 and 5 can apply through ETS's scoring partner Measurement Incorporated at www.measurementinc.com by viewing "Employment" → Reader/Evaluator → Remote Scoring Center: Work from Home.

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Related Article:

Smarter Balanced States Approve Achievement Level Recommendations

URL: www.smarterbalanced.org/news/smarter-balanced-states-approve-achievement-level-recommendations/

On 17 November 2014, members of the Smarter Balanced Assessment Consortium **voted to approve initial achievement levels for the mathematics and English language arts/literacy (ELA) assessments** that will be administered in 17 states and one territory during the 2014-15 school year...

"These initial achievement levels were developed with input from thousands of educators and community members, reflecting a diverse cross-section of views on education. Moving forward, the achievement levels, along with scale scores that also will be reported, will help teachers and parents understand student performance and needs for support," said Smarter Balanced Executive Director Joe Willhoft...

Since Smarter Balanced is offering assessments for both ELA and math for grades 3-8 and high school, the recommendations include achievement level scores for both subject areas and at each of those grade levels. The... charts [located on the website above] display the threshold scores that distinguish four achievement levels and display the estimated percentage of students across all Smarter Balanced states who would have scored at each level based on data from the Consortium's spring 2014 field test. **Smarter Balanced estimates that the percentage of students who would have scored "Level 3 or higher" in math ranged from 32 percent in Grade 8 to 39 percent in Grade 3.** In English language arts, the percentage of students who would have scored "Level 3 or higher" ranged from 38 percent in Grade 3 to 44 percent in Grade 5.

“Because the new content standards set higher expectations for students and the new tests are designed to assess student performance against those higher standards, the bar has been raised. It’s not surprising that fewer students could score at Level 3 or higher. However, over time the performance of students will improve,” said Willhoft.

(7) STEM Teacher And Researcher (STAR) Program for Preservice Teachers

Source: Brian Paavo, Director, STAR Program, California Polytechnic State University

URL: www.starteacherresearcher.org/

California State University students / alumni or Noyce Scholars who are pursuing a teaching career (K-12 math or science) are eligible to apply for the **STAR (STEM Teacher And Researcher) Program**. STAR will provide **70 Fellowships** (funded at \$500/week plus relocation reimbursements) at **23 national, university, and private labs during Summer 2015** (June 15-August 15) in addition to more than 30 hours of NGSS (Next Generation Science Standards) professional development.

STAR is a 100K-in-10 grantee supported by national and private foundations to provide more and better prepared STEM teachers in K-12 classrooms across the country by ensuring that they have the practical science, math, and engineering experience to effectively guide their students in research practices and inquiry-based learning. The program is open to applicants who have not yet been employed as full-time teachers, but who are interested in pursuing a STEM Teaching career.

Visit the website above to learn more or www.starteacherresearcher.org/application.html to apply online. **The application deadline for this unique opportunity is next Thursday (January 15).**

ARTICLES & ANNOUNCEMENTS (NATIONAL FOCUS)

(1) “Exploring Opportunities for STEM Teacher Leadership: Summary of a Convocation”

Source: National Academies Press

URL: www.nap.edu/search/?topic=282&year=2014&rpp=20&ft=1&term=STEM

Many national initiatives in K-12 science, technology, engineering, and mathematics (STEM) education have emphasized the connections between teachers and improved student learning. Much of the discussion surrounding these initiatives has focused on the preparation, professional development, evaluation, compensation, and career advancement of teachers, but K-12 teachers have not always been included in the discussions. So that K-12 STEM teacher leaders could help improve student learning through involvement in education policy and decision making, the National Research Council held a convocation in June 2014 entitled, **"One Year After Science's Grand**

Challenges in Education: Professional Leadership of STEM Teachers through Education Policy and Decision Making."

This event was structured around a special issue of *Science* magazine that discussed **20 grand challenges in science education**. (For the issue overview, please visit <https://www.sciencemag.org/content/340/6130/249.full>). The authors of three major articles in that issue--along with Dr. Bruce Alberts, *Science's* editor-in-chief at the time--spoke at the convocation, updating their earlier observations and applying them directly to the issue of STEM teacher leadership. The convocation focused on empowering teachers to play greater leadership roles in education policy and decision-making in STEM education at the national, state, and local levels. "**Exploring Opportunities for STEM Teacher Leadership**" is a **record of the presentations and discussion of that event**. This report will be of interest to STEM teachers, education professionals, and state and local policy makers. To **download a free copy** of this report (and to view other NAP publications on STEM education topics from 2014), please visit www.nap.edu/search/?topic=282&year=2014&rpp=20&ft=1&term=STEM

(2) Registration is Open for MSRI's 2015 Critical Issues in Mathematics Education Workshop on Development Mathematics

URL: www.msri.org/web/msri/education/for-k-12-educators/critical-issues

Since 2004, the Mathematical Sciences Research Institute (MSRI) in Berkeley has sponsored a workshop series entitled **Critical Issues in Mathematics Education**. The series brings together mathematicians, mathematics educators, teachers, and graduate students to thoughtfully discuss and chart a course for improving mathematics teaching and learning. An Educational Advisory Committee, currently chaired by Deborah Ball, serves in a leadership and advisory capacity. (See www.msri.org/web/msri/about-msri/governance-directory/educational-advisory-committee for the members of this committee.)

For more information and to register for this year's workshop, which will be held on **March 18-20 at MSRI**, visit www.msri.org/workshops/758. A brief description of this workshop follows below:

"Critical Issues in Mathematics Education 2015: Developmental Mathematics: For whom? Toward what ends?"

This workshop will address the critical issue of developmental mathematics at two- and four-year colleges and universities and the broader dynamic of mathematics remediation that occurs at all levels. It will engage mathematicians, K-12 teachers, mathematics educators, and administrators in a conversation about the goals of developmental mathematics and the contributions made to this work by these different professional communities. (Visit the workshop website to view the key questions that will be addressed at the workshop.)

(3) Comet Lovejoy Glows Brightest During Mid-January

Source: *Sky & Telescope* – 6 January 2015

URL: www.skyandtelescope.com/press-releases/comet-lovejoy-january-2015/

On Tuesday, *Sky & Telescope* provided an informative press release about **Comet Lovejoy**, accompanied by **viewing charts and photographs**. Excerpts appear below. To read more, please visit the website above.

Comet Lovejoy, already being tracked by backyard astronomers worldwide, is entering its best and brightest two weeks for viewing. From around January 7th through 24th, the comet is predicted to be glowing at 4th magnitude--bright enough that skywatchers with clear, dark skies might be able to just glimpse it by eye, without optical aid. The early-evening sky during this time will be dark and moonless, allowing the best views.

"If you can find Orion shining high in the southeast after dinnertime," says *Sky & Telescope* senior editor J. Kelly Beatty, "you'll be looking in the right direction to track down Comet Lovejoy." From there, use *Sky & Telescope's* sky maps (visit the webpage above) to find the right spot for each date.

To the unaided eye, Comet Lovejoy might be dimly visible as a tiny circular smudge under dark-sky conditions. Through binoculars or a wide-field telescope, it will be more obvious as a softly glowing ball. Light pollution will make it less apparent.

This is the fifth comet discovery by Australian amateur astronomer Terry Lovejoy, who found it in images taken with his backyard 8-inch telescope. Observers estimate that the comet's solid, ice-rich nucleus is at least 2 or 3 miles across, slightly larger than typical. The comet's visible head, or coma, is a cloud of gas and dust roughly 400,000 miles across.

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