

Silicon Valley Research Alliance Wrestles with Math Sequences and Instruction

Over the past two years, attendance at the twice-yearly educator seminars convened by the Silicon Valley Research Alliance (SVRA) has increased from 40 to 120 secondary teachers and site and district administrators. Educator ratings of seminar relevance and usefulness have also risen steadily. The seminars focus on supporting students' persistence in college-preparatory mathematics by connecting research and practice. The context for the seminars is the implementation of the Common Core State Standards (CCSS) in math, and the implications for instruction and placement.

Educators in Silicon Valley have been working together for the past five years to improve mathematics preparation, with a keen focus on the middle school years. Analysis of assessment data (scores on the California Standards Test and the Mathematics Diagnostic Testing Project) indicated that students from the feeder K–8 districts on the east side of San Jose, California, entered East Side Union High School with varied preparation in algebra. In addition, the algebra I placement policies for rising 8th graders varied considerably. That meant that some students were on track in ninth grade to take the four years of mathematics courses necessary for admission to a four-year college, but many were not. And it is very difficult for students off track for college preparatory coursework in ninth grade to catch up in the remaining three years of high school.

The SVRA comprises a varied group of stakeholders with a common interest in

increasing the number of students who attend and are successful in college. In addition to East Side Union High School District and its K–8 feeder districts, SVRA members include the Silicon Valley Education Foundation, which has promoted algebra I completion in middle schools for several years and a REL West team that supports alliance work through research, data analysis, and technical assistance.

When alliance members took an initial look at the issue of uneven algebra preparation among students, they discovered that middle school criteria for placement of students in algebra I were inconsistent across the districts. Since then, the criteria for placing students in algebra I in the 8th grade have become consistent across the feeder districts. However, new course sequences suggested by the Common Core State Standards are once again requiring the districts to rethink course pacing and sequencing.

REL West Research Digest keeps educators and others abreast of the research, data analysis, and technical assistance carried out by the Regional Educational Laboratory West (REL West), including joint efforts with eight state and regional research alliances of education stakeholders in the West Region states of Arizona, California, Nevada, and Utah. In addition to providing abstracts of selected REL West research reports, the twice-yearly digest may include descriptions of upcoming REL West work, services, and events in the West Region, or publications developed by other researchers.

The first two seminars hosted by SVRA were designed to bolster teacher understanding of districts' newly developed placement procedures for mathematics courses and the research supporting them. To apply this new knowledge to school-level practices, district teams worked with student profiles, discussing what the student's math placement would be under current policies and procedures, types of support the student would need in order to be successful in the placement, and the potential consequences of the placement for high school course taking.

Overarching goals for the seminars are to build a common knowledge base across districts and between high school and middle school educators on research and best practices for college preparation; and to provide an opportunity for structured conversations between middle school and high school teachers about collaborative strategies to keep students on track for college from grades seven through twelve.

"It's hard to over-emphasize the importance of facilitating communication and collaboration between middle school and high school mathematics teachers, in regard to its potential impact on student outcomes," says Manny Barbara, a former school district superintendent who is Vice President of the Silicon Valley Education Foundation. "The transition between K–8 and high school is a big one, and students can easily get lost in the gap between the two systems."

The agenda for the spring 2013 seminar included a presentation by Neal Finkelstein, a senior research scientist at WestEd who heads the REL West team working with the alliance, on a study he and colleagues recently completed of 24 California districts, which showed that repeating algebra was not a productive strategy for successfully completing college preparatory high school mathematics courses. David Foster, Executive Director of the Silicon Valley Mathematics Initiative,

spoke to educators about the implications of the mathematics CCSS on course sequencing, curriculum, assessment, and instruction.

Based on the presentations, table groups addressed two questions regarding the implications of the mathematics CCSS on pacing, curriculum design, and course sequencing, and how collaboration between feeder districts and the high school district could address challenges in these three areas. Key educator concerns included how to address parent pressure for accelerated instruction required by the mathematics CCSS on the one hand—for example, taking algebra or geometry in 8th grade—and, on the other hand, how to provide appropriate intervention for students who are unprepared for the rigor of grade-level CCSS math classes.

The fall 2013 seminar offered a deeper examination of the CCSS, through research presentations and discussions on potential changes in middle school and high school mathematics progressions and course placement procedures as a result of the shift to CCSS.

"The SVRA enables conversations with teachers and administrators in real time about the complex placement issues they are grappling with. Our research and analysis allows the actual data patterns of our colleagues' students to be at the front and center of the conversations," said WestEd's Finkelstein.

As SVRA looks toward its third year of seminars for educators, lead members are considering new formats to address the needs and interests of alliance members and probe more deeply into the issues. To accommodate larger numbers of participants, they are considering conducting seminars with subgroups of educators, or augmenting face-to-face meetings with online formats such as webinars. As interest and knowledge expand, educators will be better able to try out new strategies to improve placement and instruction.

Visit the REL West website featuring:

- Collaborative work with Research Alliances
- Free reports on state issues
- Events that connect research, policy, and practice

<http://relwest.WestEd.org>

Bridge Events Build Momentum for Alliance Work

Several fall bridge events moved REL West work with state and regional alliances forward by building a common knowledge base among stakeholders and bringing researchers and educators together to develop strategies for improving student outcomes. Three events featured a combination of national expertise and state-specific data.

Utah—Promoting regular school attendance

Hedy Chang, Director of Attendance Works and a national expert on the effects of chronic absenteeism on student outcomes, was a featured speaker at a September 26th bridge event titled *Every Day Counts: Increasing Attendance to Improve Student Outcomes in Utah*. More than 160 Utah educators, policymakers, and community members participated in the day-long event, whose goals were to deepen awareness about the consequences for students of chronic absenteeism, and to explore school- or district-level strategies to increase attendance.

Martell Menlove, State Superintendent of Public Instruction, and Karl Wilson, Director of Special and Federal Programs at the Utah State Office of Education (USOE), offered opening remarks to frame conference content and goals. Participants also heard from University of Utah researcher Kristin Swenson, who discussed a 2012 study on patterns of absenteeism in the state of Utah and its relationship to dropping out of school; Carol Anderson, Education Specialist in Special Education at USOE, shared a new resource for schools to assess truancy; and Karen Crompton, President of Voices for Utah Children, who informed participants about the statewide *Make Every Day Count* attendance campaign.

A panel of representatives from Utah schools and community agencies shared their successes and challenges in reducing chronic absenteeism and improving student attendance. The panel was moderated by Susan Loving, Transition Specialist, USOE.

Nevada—Bringing higher education research to K–12 issues

The Nevada Education Research Symposium hosted by the Nevada Education Research Alliance on November 2nd in Reno offered 67 Nevada education stakeholders an opportunity to learn about recent education research findings in the state; discuss application of these findings to education practices and policies; and investigate ways to conduct further research to inform practice.

Participants included researchers, faculty, and graduate students from Nevada institutions of higher education; teachers, researchers, and administrators from Nevada school districts; Nevada Department of Education leadership and staff; and legislative staff. Eighteen research presentations were offered on topics ranging from school financing to data analysis to writing skills for English learners. REL West staff facilitated several of the research sessions.

Institutions of higher education represented included the University of Nevada, Reno; University of Nevada, Las Vegas; Nevada State College; College of Southern Nevada; and Truckee Meadows Community College. Representatives of the Nevada Department of Education and Nevada Legislative Counsel Bureau attended, as did staff from Washoe County School District, Humboldt County School District, and Douglas County School District.

California—College-track math in middle school

Getting students on track for college preparatory high school mathematics coursework, starting in grade 6, is a key goal of the Silicon Valley Research Alliance (SVRA). As part of this work, alliance members, including some 140 teachers, district administrators, researchers, and community leaders, participated in a bridge event, *Course Progressions in the Mathematics CCSS*, on November 13th in San Jose to learn from experts and talk with colleagues about how Common Core State Standards in mathematics would affect mathematics course content and sequence at the middle school level.

The event, convened by the Silicon Valley Research Alliance (SVRA), led by the Silicon Valley Education Foundation (SVEF), was the fourth in a series of educator seminars aimed at building common foundational knowledge among stakeholders and providing opportunities for structured conversations between teacher leaders and district staff from feeder middle schools and their receiving high school. Topics included CCSS-related changes in course content and pacing, course-taking sequences, and systematic student placement in mathematics courses.

(See related article on page 1.)

For further information on these and other bridge events, go to the REL West website: <http://relwest2012.herokuapp.com/events>

Publications from RELs and Others

REL West

Course-Taking Patterns and Preparation for Postsecondary Education in California's Public University Systems Among Minority Youth

This report finds that the high school program for college preparation begins in 9th grade and that making up missed preparatory courses and academic content is likely to be difficult for students who put off college-preparatory work until later in their high school career. (2008)

REL Appalachia

Effects of the Kentucky Virtual Schools' Hybrid Program for Algebra I on Grade 9 Student Math Achievement

This report presents findings from a rigorous evaluation of the Kentucky Virtual Schools hybrid algebra I curriculum. The curriculum combines traditional face-to-face instruction with an online program. Researchers found that the hybrid class format was no more effective at increasing student achievement and future course taking in math than algebra offered in the traditional face-to-face format. (2012)

Center for the Future of Teaching and Learning at WestEd

College Bound in Middle School and High School?: How Math Course Sequences Matter

This study explores the connection between mathematics achievement in middle school and high school to better understand the degree to which students stay on the path toward postsecondary STEM study and, if students veer off the trajectory, to better understand when and why. (2012)

What Works Clearinghouse

Helping Students Navigate the Path to College: What High Schools Can Do

Access to higher education remains a challenge for many students who face academic and informational barriers to college entry. This guide targets high schools and school districts, and focuses on effective practices that prepare students academically for college, assist them in completing the steps to college entry, and improve their likelihood of enrolling in college. (2009)

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