PACE
Policy Analysis for California Education

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FORMATIVE ASSESSMENT IN THE CLASSROOM, THE CURRICULUM, AND THE CULTURE OF SCHOOLS

Wednesday, March 11, 2015

UCLA Conference Center, 330 De Neve Drive
Northwest Campus Auditorium & Carnesale Commons Palisades Ballroom

Featuring presenters and facilitators from leading assessment and research centers: National Center for Research on Evaluation, Standards, & Student Testing (CRESST), Institute for Learning at the University of Pittsburgh (IFL), Stanford Center for Assessment, Learning, and Equity (SCALE), SRI International, University of California, Berkeley, and WestEd.

PACE wishes to thank the Bill & Melinda Gates Foundation for financial support to sponsor this conference.

Conference Agenda	
8:30 - 9:00 a.m.	**On-site Registration – Continental Breakfast** (Lobby of Northwest Campus Auditorium)
9:00 - 9:10	**Welcome & Introductory Remarks** (Northwest Campus Auditorium)
9:10 - 10:00	**Plenary Session: Panel Discussion 1** "Formative Assessment as Transformative Practice" *Featuring assessment experts from SCALE, CRESST, IFL, UC Berkeley, SRI International, and WestEd*
10:00 - 10:15	**Transition/Break – Move to Breakout Rooms** (NW Campus Auditorium, Carnesale Commons Palisades Ballroom (3rd Fl) and Malibu Room (2nd Fl))
10:15 - 12:00 p.m.	**Breakout Sessions by Content Area**
12:00 - 12:45	**Lunch** (Foyer, Carnesale Commons Palisades Ballroom)
12:45 - 2:30	**Breakout Sessions by Content Area (cont'd)**
2:30 - 2:45	**Transition/Break** (Return to Northwest Campus Auditorium)
2:45 - 3:30	**Plenary Session: Panel Discussion 2** "Creating a Supportive Culture of Formative Assessment" *Featuring voices from the field*
3:30 – 3:45	**Takeaways and Concluding Remarks**

Presenter & Session Facilitator Biographical Statements

David N. Plank

David Plank is the Executive Director of PACE, Professor (Research) in the Stanford University Graduate School of Education, and Researcher in the Stanford Lemann Center for Educational Entrepreneurship and Innovation in Brazil. Before joining PACE in January 2007, Plank was a Professor at Michigan State University, where he founded and directed the Education Policy Center. He was previously on the faculties at the University of Pittsburgh and at the University of Texas at Dallas, where he taught courses and conducted research in the areas of educational finance and policy. Plank is the author or editor of six books, including the *AERA Handbook of Education Policy Research*. He has published widely in a number of different fields, including economics of education, history of education, and educational policy. His current interests include the role of the state in education, the relationship between academic research and public policy, and the development of state policies to encourage and support the use of digital technologies in schools. In addition to his work in the United States, Plank has extensive international experience. He has served as a consultant to international organizations, including the World Bank, the United Nations Development Program, the Organization for Economic Cooperation and Development, the United States Agency for International Development, and the Ford Foundation, and also to governments in Africa and Latin America. He received his Ph.D. from the University of Chicago in 1983.

Joan Herman

Joan Herman is Co-Director Emeritus of the National Center for Research on Evaluation, Standards, & Student Testing (CRESST) at UCLA. Her research has explored the effects of testing on schools and the design of assessment systems to support school planning and instructional improvement. Her recent work focuses on the validity and utility of teachers' formative assessment practices and the assessment of deeper learning. She also has wide experience as an evaluator of school reform.

Dr. Herman is noted in bridging research and practice. Among her books are *Turnaround Toolkit*, and *A Practical Guide to Alternative Assessment*, both of which have been popular resources for schools across the country. A former teacher and school board member, Dr. Herman also has published extensively in research journals and is a frequent speaker to policy audiences on evaluation and assessment topics. She is past president of the California Educational Research Association; has held a variety of leadership positions in the American Educational Research Association, National Organization of Research Centers, and Knowledge Alliance; and is a frequent contributor at the National Academy of Education. Dr. Herman is current editor of *Educational Assessment*, serves on the Joint Committee for the Revision of *Standards for Educational and Psychological Testing*, and chairs the Board of Education for Para Los Niños.

Noelle Griffin

Noelle Griffin is Associate Director of CRESST at UCLA. Through her work at CRESST she has led program evaluations in a variety of educational settings, including evaluations of professional development, science instruction, math instruction, and social services programs. Dr. Griffin has particularly focused on the evaluation of arts-based education and its integration into the K-12 curriculum and, in addition to her work with the Webplan program, she also led the national evaluation of the Leondard Bernstein Center Artful Learning Model.

Prior to returning to CRESST in 2006, she served as director of assessment for Loyola Marymount University and has a continued interest in assessment and evaluation issues at the higher education level.

Ayesha Madni

Ayesha Madni is a CRESST Senior Researcher. Her research interests include educational games, student motivation, social and emotional learning, and human learning and memory. Her current work involves students' self-efficacy and social and emotional learning within educational games. She also has a strong interest in enhancing performance of students with special needs.

Prior to her work at CRESST, Dr. Madni taught at the Rossier School of Education at the University of Southern California, and worked as a senior researcher for Intelligent Systems Technology, Inc. She also has worked as a learning specialist, providing targeted interventions to facilitate student learning and motivation across a variety of student populations. She received her doctorate in Educational Psychology from the University of Southern California.

Julia Phelan

Julia Phelan is a CRESST Senior Research Associate. Currently, she is working on a large-scale study of the effects of assessments of conceptual understanding on mathematics learning and performance at the middle school level. Previously, she worked on a project to integrate science education and assessment research in the construction of web-based assessment tools for middle school science teachers. Her experience also includes curriculum and assessment development in math and science at the K-12 and college level, with a focus on developing materials based on a deep understanding of big ideas across the curriculum. Other research interests include elementary math education, the development of mathematical concepts across grade levels, and social/emotional development in young children with developmental disorders She was the recipient of the UCLA College of Letters and Sciences Certificate in Distinction in Teaching in 2001. She holds a B.A. in Psychology and a Ph.D. in Educational Psychology from UCLA.

INSTITUTE for LEARNING
UNIVERSITY OF PITTSBURGH

Anthony Petrosky

Anthony Petrosky, the Associate Dean of the School of Education at the University of Pittsburgh, co-directs the Institute for Learning (IFL) with Lauren Resnick at the Learning Research and Development Center. He holds a joint appointment as a Professor in the School of Education and the English Department. He has worked with professional learning and curriculum development in English and literacy for school and district leaders in the public schools of Austin, Boston, Dallas, Denver, El Paso, New York Cty, Fort Worth, Prince George's County, and Pittsburgh. He headed up the design team to develop assessment prototypes in English Language Arts and literacy for the Partnership for the Assessment of Readiness for College and Careers (PARCC). He was the Principal Investigator and Co-Director of the Early Adolescence English Language Arts Assessment Development Lab for the National Board for Professional Teaching Standards that developed the first national board certification for English teachers. He also has served as Co-Director of the Western Pennsylvania Writing Project. He was a senior researcher for the MacArthur Foundation's Higher Literacies Studies, where he was responsible for conducting and writing case studies on literacy efforts in the Denver, Pittsburgh, Toronto, and Ruleville and Mound Bayou school districts in the Mississippi Delta. He is past Chair of the National Council of Teachers of English (NCTE) Committee on Research and a past elected member of the NCTE Research Foundation.

His first collection of poetry, *Jurgis Petraskas,* received the Walt Whitman Award from the Academy of American Poets and a Notable Book Award from the American Library Association. Petrosky has published two other collections of poetry, *Red and Yellow Boat* and *Crazy Love*. Along with David Batholomae, Petrosky is the co-author and co-editor of five books: *Facts, Artifacts, and Counterfacts: Theory and Method for a Reading and Writing Course*, *The Teaching of Writing*, *Ways of Reading*, *Ways of Reading Words and Images*, and *History and Ethnography: Reading and Writing About Others*. With Stephanie McConachie, he co-edited *Content Matters: A Disciplinary Literacy Approach to Improving Student Learning*.

Victoria Bill

Victoria Bill is a former elementary and middle school mathematics teacher. She is currently a Fellow with IFL at the Learning Research and Development Center, University of Pittsburgh. She serves as the Chair of the Mathematics Disciplinary Literacy Team for the Institute for Learning, where she works closely with Margaret Schwan Smith on the design and coordination of the practice-based professional development model for mathematics. She also developed and implemented a research-based elementary mathematics professional development course of study, which has been used in several of the IFL partner school districts. Collaborations that have added to her knowledge core and awareness of school systems include work with the National Alliance for Restructuring Education, the New Standards Partnership, and the North Central Regional Laboratory. Bill's completion of a principal internship also has contributed to her understanding of school systems. She has co-authored several articles on mathematics instruction. Her most recent publications include a chapter in the book, *Content Matters: A Disciplinary Literacy Approach to Improving Student Learning*, and an article on a lesson planning protocol, "Thinking Through a Lesson Plan." She has presented at professional conferences such as the National Council of Teachers of Mathematics, the National Supervisors of Mathematics, the Pennsylvania Council of Mathematics Teachers, and the American Education and Research Association. She also teaches a Methods of Mathematics Instruction course for pre-in-service teachers at the University of Pittsburgh and an Instructional Leadership course at the University of Pittsburgh School of Education for teachers who aspire to be elementary or secondary principals. Bill completed her studies at Carlow University and the University of Pittsburgh.

Vivian Mihalakis

Vivian Mihalakis is a Senior English Language Arts Fellow at IFL. She joined the IFL in 2005. Her work includes designing educative English Language Arts (ELA) curriculum, assessments, and professional development. Mihalakis has worked with educators in public school districts from coast to coast, including Boston, Fort Worth, Dallas, Half Hollow Hills, Los Angeles, Minneapolis, New York City, and Pittsburgh. She led the design of the high school prototype performance assessments and instructional tasks for the Partnership for the Assessment of Readiness for College and Careers (PARCC). From 2013-2014, she worked as the Director of Product Development at Inquiry By Design, where she led the development of ELA curriculum and professional development.

Mihalakis has taught in public, private, urban, and rural schools. She has presented at national and international conferences, including the National Council of Teachers of English (NCTE), American Educational Research Association (AERA), and the International Conference on Learning (ICL). Her recent publications include a chapter in *Content Matters: A Disciplinary Literacy Approach to Improving Student Learning* and an article in a forthcoming AERA book on sequencing tasks and talk in ELA. She is currently working with David Bartholomae, Stephanie McConachie, and Anthony Petrosky on a textbook for high school students, *Essential Ways of Reading*, which will be available in 2015 from the Institute for Learning. Mihalakis holds a doctorate in Education from the University of Pittsburgh.

Margaret Smith

Margaret (Peg) Smith is a Professor in the Department of Instruction and Learning in the School of Education and a Senior Scientist at the Learning Research and Development Center, both at the University of Pittsburgh. She works with pre-service middle and high school mathematics teachers at the University of Pittsburgh, with doctoral students in mathematics education who are interested in becoming teacher educators, and with practicing teachers and teacher leaders locally and nationally.

Over the past 20+ years she has been developing research-based materials for use in the professional development of mathematics teachers and studying what teachers learn from the professional development in which they engage. She secured funding for four NSF projects to support these efforts. She is currently the principle investigator of the NSF-funded CORP (Cases of Reasoning and Proving in Secondary Mathematics) Project that is creating materials intended to develop teachers' knowledge related to reasoning and proof and their ability to support students' engagement in these mathematical practices.

She has authored or co-authored over 75 books, edited books or monographs, book chapters, and peer-reviewed articles. Her most recent book, *5 Practices for Orchestrating Productive Mathematics Discussion,* co-authored with Mary Kay Stein, was published in April 2011 and it has been the best-selling book at NCTM since its release. The science version of the book, co-authored with Jennifer Cartier, Mary Kay Stein, and Danielle Ross, was co-published by NCTM and NSTA in Fall 2013.

She was a member of the Board of Directors of the Association of Mathematics Teacher Educators (2001-2003; 2003-2005) and of the National Council of Teachers of Mathematics (2006-2009). She is currently a member of the Board of Directors of Teachers Development Group. In 2006, she was selected to receive the Chancellor's Distinguished Teaching Award given annually to honor outstanding faculty at the University of Pittsburgh. In 2009, she received the award for Excellence in Teaching in Mathematics Teacher Education from the Association of Mathematics Teacher Educators. In 2010, she received the Susan Loucks-Horsley Award from the National Staff Development Council in recognition of her efforts to promote professional learning in mathematics. She is currently the editor of the *Mathematics Teacher*, a journal co-published by NCTM and AMTE.

SCALE
Stanford Center for Assessment, Learning, & Equity

Dr. Raymond Pecheone

Dr. Ray Pecheone is a Professor of Practice at Stanford University and the founder and Executive Director of the Stanford Center for Assessment, Learning, and Equity (SCALE), which focuses on the development of innovative performance-based assessment tasks. SCALE creates curriculum-embedded assessments "for and as learning" to support schools in focusing on deeper learning and alignment to next generation standards. SCALE provides comprehensive supports for standards-based teaching and learning and is built around the development of interactive assessment and multimedia instructional tools to support college and career readiness.

Prior to launching SCALE, Dr. Pecheone held a variety of leadership positions in the Connecticut State Department of Education as the Bureau Chief for Curriculum, Research and Assessment; the Co-director of the first Assessment Development Lab for the National Board for Professional Teaching Standards (NBPTS); Teacher Scholar-in-Residence at Teachers College, Columbia University; and project director to support the redesign of the New York State Regents. At Stanford University, SCALE is focused on influencing and shaping national policy around the use of performance-based assessments to support teaching and learning.

Vinci Daro

Vinci Daro is Associate Director of Mathematics Learning at SCALE. Prior to her work with SCALE, she worked with Ann Shannon & Associates on professional development with teachers in NYC and KY focused on the Shell Centre Formative Assessment Lessons (Classroom Challenges). She has served as a developer of K-12 mathematics curriculum, assessment, and professional development on many projects, including consultant work for Learning in Motion, Better Lesson, and the Achievement Network. She holds a Ph.D. in Cultural Anthropology from the University of North Carolina, Chapel Hill, and a B.A. in Mathematics and Anthropology from the University of California, Santa Cruz. She was involved in the development of the TRU Math Rubric during her postdoctoral work in mathematics education at the University of California, Berkeley.

Kari Kokka

Kari Kokka is a Performance Assessment Development and Research Associate at SCALE. Prior to her work with SCALE, she was a math teacher and math coach for ten years in New York City at Vanguard High School, a member of the New York Performance Standards Consortium. At Vanguard she designed performance assessments and rubrics, prepared students, and conducted professional development for colleagues. She is currently a doctoral student at the Harvard Graduate School of Education studying urban STEM teacher retention. She completed her M.A. with the Stanford Teacher Education Program and her B.S. in Mechanical Engineering at Stanford University. She is co-founder and co-organizer of the Creating Balance in an Unjust World Conference on Math Education and Social Justice.

Daisy Martin

Daisy Martin directs the history/social studies work at SCALE. Previously, she was the Director of History Education at the National History Education Clearinghouse (Teachinghistory.org) and co-founded the Stanford History Education Group. She co-authored the award-winning book*, Reading Like a Historian: Teaching Literacy in Middle and High School Classrooms* (2nd edition, 2012), and website Historical Thinking Matters. A former history and civics teacher in California public schools, she currently teaches teacher-candidates. Her current projects focus on the research, development, and use of performance-based history assessment and its role in putting historical thinking and literacy at the center of the history classroom.

Nicole Barrick Renner

Nicole Barrick Renner is a Research Associate at SCALE. She specializes in student performance assessment in English Language Arts, focusing primarily on curriculum, assessment, and rubric development for secondary English education. Prior to joining SCALE, she taught high school English at East Nashville Magnet School in Tennessee, where she trained with the National Paideia Center and the Buck Institute for Education to support school-wide implementation of Paideia Active Learning and Project Based Learning strategies.

Renner holds an M.Ed. in Learning and Instruction (Secondary English Education) from Vanderbilt University's Peabody College of Education and Human Development; she also holds an M.A. and a B.A. in English Language and Literature from the University of Virginia. Her research interests include multimodal composition, meaningful use of technology in the classroom, and talk-based pedagogy as tools for student engagement and deeper learning.

Susan Schultz

Susan Schultz is the Director of Teaching, Learning, and Assessment for SCALE. Her primary responsibilities involve designing and piloting science performance assessments in California, New York, and Ohio as well as developing a science teacher observation instrument to be used in the Measuring Effective Teaching (MET) study being funded by the Bill & Melinda Gates Foundation.

Schultz's background in science education is extensive, including serving as the Education Officer for the Stanford Linear Accelerator Center and as Vice President of Education for Yosemite National Institutes. Prior to teaching high school biology and chemistry for ten years, she was an ecologist for the U.S. Army Corps of Engineers in Los Angeles and a biologist for the U.S. Fish and Wildlife Service in Long Island, NY. After earning her Ph.D. at Stanford in 1999, she was the Stanford Project Director for the Center for Assessment and Evaluation of Student Learning (CAESL), an NSF-funded multi-university research project focusing on improving assessment development and classroom assessment strategies with the goal of improving student science achievement. As a Stanford Teacher Education Program (STEP) Instructor, she taught science curriculum, instruction, and assessment courses to teacher candidates emphasizing curriculum design, inquiry-based instruction, cooperative learning techniques, and alternative assessment strategies.

Schultz holds a B.S. degree in Biology and Chemistry at Elmira College, NY (1978); an M.A. in Education and a California Secondary Science Teaching Credential at Stanford University (1986); and a Ph.D. in Curriculum and Teacher Education in Science Education at Stanford University (1999). Her teaching and research interests focus on science education, for pre-service as well as professional development for in-service teachers, with particular emphasis on issues of alternative assessments, inquiry-based learning, cooperative learning strategies, and equity. She is the author of cases in *Groupwork in Diverse Classrooms: A Casebook for Educators* and *Using Assessments to Teach for Understanding: A Casebook for Educators*, as well as the author of numerous journal articles on the reliability and validity of alternative assessment techniques (i.e., concept mapping and performance assessments).

SRI International

Ron Fried

Ron Fried is a Senior Instructional Designer and Education Researcher in SRI International's Center for Technology in Learning. He has more than 20 years of experience as a senior instructional design consultant and researcher focusing on the areas of science education, assessment, evaluation, and both traditional and technology-based curriculum design. Fried has designed, developed, implemented, and evaluated multi-source human performance assessments, performance simulation testing, interview-based evaluation of occupational experience assignments, paper and pencil knowledge testing, technology-enhanced assessments, and group performance scenarios in a number of different content areas. Additionally, he has extensive experience in curriculum design, development, and implementation.

Prior to joining SRI, Fried worked as a high school and middle school science teacher.

Teresa Lara-Meloy

Teresa Lara-Meloy is a Mathematics Education Researcher, Curriculum Developer, and PD provider in SRI International's Center for Technology in Learning. Lara-Meloy is passionate about finding better ways of teaching math to all kids, and improving the ways we support teachers. She is particularly interested in exploring the intersecting ways in which curriculum, technology, and professional development improve teaching and learning in classrooms and out-of-school activities.

Dr. Daisy Rutstein

Dr. Daisy Rutstein is an Education Researcher in SRI International's Center for Technology in Learning. Her work focuses on the application of Evidence Centered Design (ECD) to develop assessments. She works through the different stages of the development process, starting with the initial conception of the assessment and moving through the development of items, the creation of a complete assessment, and the validation of the assessment. Dr. Rutstein's work in this has included the development of design patterns, scenarios and items, as well as the identification of measurement models for these tasks. Dr. Rutstein received her doctoral degree in measurement, statistics, and evaluation from the University of Maryland.

Dr. Cindy Ziker

Dr. Cindy Ziker is a Senior Researcher in Assessment at the Center for Technology in Learning in the Education Division of SRI International. She has over a decade of experience developing and conducting assessment literacy trainings for districts, state departments of education, and education service agencies. As the former psychometrician, Senior Research Scientist, and NAEP Coordinator for the Arizona Department of Education, Dr. Ziker provided state-wide professional development in the design and use of assessments for formative, summative, and diagnostic purposes. Dr. Ziker earned a doctorate degree in Education Psychology from Arizona State University and a post-doctorate graduate certificate in large scale assessment from the University of Maryland and the National Center for Education Statistics.

Alan Schoenfeld

Alan Schoenfeld is the Elizabeth and Edward Conner Professor of Education and Affiliated Professor of Mathematics at the University of California at Berkeley. He has worked extensively on formative assessment (see http://map.mathshell.org/materials/index.php) and what makes for powerful math classrooms (see http://ats.berkeley.edu).

Edys Quellmalz

Edys Quellmalz is a national leader in the field of technology assessment and learning. She is the Director of Technology Enhanced Assessments and Learning Systems in the Science, Technology, Engineering, and Mathematics program at WestEd. She leads research, development, and evaluation projects related to the designs of technology-based learning environments and assessments.

As Principal Investigator of multiple grants from the National Science Foundation, the Institute of Education Sciences, the Office of Secondary and Elementary Education, and the Carnegie Corporation, she has built the SimScientists project portfolio to promote and assess deep science learning.

Quellmalz co-directed development of the 2014 Framework for the National Assessment of Educational Progress in Technology and Engineering Literacy, served on the Steering Committee for the 2011 NAEP Writing Framework, and on national advisory committees and editorial boards. She was Associate Director of the Center for Technology in Learning at SRI International and Director of Assessment Research and Design. There she was Principal Investigator for NSF research, development, and evaluation projects.

Quellmalz served on the faculty of the Stanford School of Education, taught graduate education courses at the University of California, Los Angeles (UCLA), led assessment design studies at the UCLA Center for the Study of Evaluation, and directed the RMC Research Title I Technical Assistance Center for nine western states.

She has over 40 years of experience consulting for state, national, international, student, and teacher assessment programs. She has presented her work extensively at national conferences and has published in the areas of assessment, technology, and 21st century learning. Quellmalz received a B.A. in psychology, and an M.A. and Ph.D. in educational psychology from UCLA.

Cathy Carroll

Cathy Carroll, Senior Research Associate and Project Director in WestEd's Science, Technology, Engineering, and Mathematics program, is engaged in several mathematics education projects. Carroll is recognized nationally for her expertise in mathematics leadership and professional development. She consults with districts and projects across the country to design and facilitate leadership seminars and conduct professional development with teachers. Carroll co-directs two Institute of Education Sciences-funded projects—Linear Functions for Teaching Efficacy Study and Making Middle School Mathematics Accessible to All Students.

She is also co-author of *Learning to Lead Mathematics Professional Development* (2007) and *Making Mathematics Accessible to English Learners: A Guidebook for Teachers* (2009). She also coordinates workshop opportunities related to both of these resources.

Carroll's previous projects include the National Science Foundation-funded Researching Mathematics Leader Learning, Leadership Curriculum Development for Mathematics Professional Development, and Mathematics Renaissance K-12.

She also served as Director of the Mathematics Renaissance Leadership Alliance, an initiative of the California Department of Education, working with district-based leadership cadres to develop teacher leadership and administrative support for quality mathematics programs. Prior to joining WestEd, Carroll taught middle school mathematics in the San Francisco Bay Area for nearly 20 years. She received the 2008 Susan Loucks-Horsley Professional Development Award from the National Staff Development Council.

Matt Silberglitt

Matt Silberglitt, Senior Research Associate in WestEd's Science, Technology, Engineering, and Mathematics program, contributes to and manages activities for simulation-based science curriculum, instruction, and assessment research projects.

Prior to his current position, Silberglitt managed development of science assessments for WestEd in the states of Massachusetts and Nevada, and contributed to the development of science assessments in Kentucky, Kansas, Ohio, Louisiana, and West Virginia. Prior to working at WestEd, Silberglitt oversaw development of science assessments at the Minnesota Department of Education and developed assessments at Data Recognition Corporation.

He has taught high school science and college courses, and has volunteered in elementary school classrooms.