

Research

APRIL 2012



School of Education Faculty Serving in Key Leadership Roles for the American Educational Research Association (AERA)

- Professor Steven Athanases has been named an Outstanding Reviewer for 2011 by the AERA for his professional service to the leading AERA journal *Educational Researcher*.
- Dean Harold Levine has been elected "member-at-large" of the executive committee to the AERA's Organization of Institutional Affiliates (OIA). This organization comprises a group of leaders in the research policy community made up of over 72 member organizations.
- Lee Martin, assistant professor of education, has been elected to serve as chair of the Learning Sciences Special Interest Group for the AERA. Both professors Cynthia Carter Ching and Tobin White have served in this role previously.



UC Davis School of Education Receives \$1 Million Grant To Study Autism's Impact on Education

The U.S. Department of Education's Institute of Education Sciences (IES) has awarded a four-year \$1 million grant to School of Education professor Peter Mundy.

Mundy will conduct a longitudinal study to identify the factors that impede or facilitate learning in elementary and secondary students with autism spectrum disorders (ASD). Part of the study will employ measures from Mundy's Social Attention Virtual Reality Laboratory to better understand the similarities and differences of how attention problems impact learning and academic development in children with ASD compared to children with Attention Deficit Hyperactivity Disorders. IES will provide UC Davis with \$1,082,130 direct costs over the four years of this project.

Mundy is Director of Educational Research at the UC Davis MIND Institute and holds the Lisa Capps Chair for Neurodevelopmental Disorders in the UC Davis School of Education and Department of Psychiatry and Behavioral Sciences of the UC Davis School of Medicine.



Peter Mundy

Professor Tobin White Honored for Early Career Excellence

The American Educational Research Association (AERA) has given Assistant Professor Tobin White its 2012 Jan Hawkins Award for Early Career Contributions to Humanistic Research & Scholarship in Learning Technologies. The award will be presented at the AERA's annual conference in April. White will get to give the annual Jan Hawkins address at AERA's Conference in San Francisco in 2013.



Tobin White

New Study Says Opportunity Gap for Bilinguals More Important than Achievement Gap

In the race to close the achievement gap, many districts and schools may be eliminating opportunities for all students to use writing as a means for analysis and higher order thinking, according to a two-year study of literacy practices across the high school curriculum by UC Davis School of Education assistant professor Kerry Enright.

According to Enright, though the focus on eliminating disparities among subgroups of students is good, the result has been an over-emphasis on standardized, packaged curricula and high-stakes assignments that can reduce students' access to advanced uses of literacy if used improperly. In her two-year study at a large linguistically diverse high school, the district implemented explicit curricular standards tied to packaged curricula and high-stakes benchmark assignments. The emphasis in classrooms was on standardizing instruction for all learners, and then remediating learners for whom this did not work.

Enright argues, "This runs counter to everything we know about good teaching, which is designed to differentiate instruction for the needs of learners with different linguistic and academic needs, not standardize it. The push to standardize instruction has resulted in practices that seem to standardize learners as well."

"Reforms have responded to historical inequities in our public schools by measuring achievement via standardized tests and assignments," explained Enright. "Unfortunately, our study revealed a growing opportunity gap between English-speaking, white students and bilingual Latino students by inadvertently reducing English learners' access to rigorous and authentic uses of advanced language and literacy skills."

For example, in one instance, students studying a poem by Emily Dickinson were told to focus on the uses of metaphor in isolation of any larger

analysis of the meaning of the poem. "To prepare students to pass a district-wide required essay, the whole lesson became something technical," said Enright. "The product was more important than the learning."

Students unable to produce assignments that met standardized criteria were sent to a tutorial center for remediation. "Language development isn't about remediation, however. It's about thoughtful literacy-rich instruction that focuses on meaning, not just rubrics and products. Many English learners are being remediated instead of educated, all in the name of closing the achievement gap," said Enright.

According to Enright, this narrow focus precludes students learning how to think through their ideas or communicate an argument in their writing, skills critical to success in the 21st Century workplace.

Enright will present her study, "Raising Standards and Reducing Literacy," at the annual conference of the American Educational Research Association on Monday, April 16.



Kerry Enright

"The opportunity gap faced by English learners who never engage in advanced uses of school-based literacy grows more dire."

– Kerry Anne Enright



Study Looks at Students' Action Competence in Environmental Education

Effective environmental education seeks to provide high school students with a greater understanding of scientific concepts, an increased sense of ownership for the environment, and a drive to take action on behalf of the environment.

Heidi Ballard, assistant professor of environmental education, recently completed a study to determine if a combination of hands-on environmental restoration, classroom engagement, and writing can increase student understanding of scientific concepts and drive students' environmental stewardship.

"Environmental education is often focused on acquisition of knowledge or behavior change," explained Ballard. "I am interested in whether we can move to a different model of 'action-competence.' In this model, we can bridge science and civic engagement to provide opportunities for students to not only appreciate the natural world but also to understand how they can solve environmental problems through action."

For the study, Ballard and education PhD student Erin Hardie teamed up with

colleagues at the Center for Land-Based Learning to study the learning outcomes of three public high school science classes (60 students) in the California Central Valley who attended five days of habitat restoration and wrote pre- and post-field day reflections on their understanding of the scientific concepts and outcomes of their work.

Though the study found little quantitative increase in students' understanding of basic ecological concepts, the results do indicate that students' understanding of the impact of their work in the field and their sense of ownership and competence about the work did increase.

"The stewardship attitude scores jumped immediately following the field day, and students themselves pointed out how important knowledge and understanding was to their sense of ownership and competence with respect to their restoration projects," said Ballard.

Teachers who were interviewed for the study noted the importance of

combining learning of abstract scientific concepts in the writing prompts with applied experience of the field days.

"I think there is pretty clear-cut evidence that students are understanding the science," said one teacher. "They can take what they learn in the classroom and apply it right away. When you talk about habitats and nutrient cycles, they can understand it better than any other AP biology class on campus."

Ballard and her team will present "Building Bridges between Science Classrooms and Working Landscapes through Collaborative Environmental Education Research" at the annual conference of the American Educational Research Association on Friday, April 13.



Heidi Ballard

Universal Eighth Grade Algebra May Be Harmful to Some Students

Contrary to widespread belief among education policymakers, requiring all eighth graders to take algebra may actually be harmful to some students.

It is widely acknowledged that algebra is the gateway to college. Numerous studies bear out the notion that students who complete algebra earlier are more likely to perform better at math, take advanced high school math courses, graduate from college and earn more money over their lifetime.

However, a new study shows that the lowest performing eighth grade math students who are least likely to be prepared for algebra may be academically harmed by a policy that requires all eighth graders to do so. Such a universal policy, first proposed by the State Board of Education, does not take into account the skills and needs of individual students, according to the study's authors.

The study is the first of its kind to focus solely on the impact of placing

the lowest performing students in eighth grade algebra. The researchers—UC Davis School of Education professors Michal Kurlaendar and Heather Rose, and Don Taylor, education programs consultant and alumnus of the School's Ed.D. program—argue that placing all students in algebra regardless of their level of math skills may harm the very students the policy is meant to benefit.

"The Algebra for All argument is that taking algebra in the eighth grade will benefit minorities and low-income groups," said Taylor. "But our study found that the lowest performing students, composed significantly of low-income students of color, did not benefit on standardized tests and had significantly lower GPAs than peers, which may be a result of unfavorable comparisons to higher performing students in the same courses."

Low performing students more often fail algebra in the eighth grade because

they have not received the additional support they need to succeed, according to the study, requiring them to take the course again in ninth grade.

"Although placement in algebra courses as soon as possible should remain a goal to ensure students are not tracked out of college placement, we believe that a universal eighth grade algebra policy has not been proven to benefit all and requires more research to better understand potential issues," said Taylor. "We have an obligation as educators to ensure that the lowest performing students do not see school as a punishment in the form of lower grades, social embarrassment and parental ire."

Taylor, Kurlaendar and Rose will present "Outcome of Placing Low-Performing Eighth Grade Students in Algebra Content Courses" at the annual conference of the American Educational Research Association on Sunday, April 15.

FRIDAY, APRIL 13

Noon – 1:30 p.m.

Heidi Ballard & Erin Hardie

Building Bridges Between Science Classrooms and Working Landscapes Through Collaborative Environmental Education Research - Vancouver Convention Center / East Room 1

Nicole Blalock-Moore

Impacts of Being Federally Unrecognized on Indigenous Scholar Careers - Vancouver Convention Center / East Room 1

2:15 p.m. – 3:45 p.m.

Manuelito Biag

Determinants of School Health Service Use Among Adolescents - Vancouver Convention Center / East Room 2&3

Joanne Bookmyer, Vajra Watson, Marlene Bell & Wendy Gallimore

The Allison Algebra Project as an Agent of Change - Vancouver Convention Center / East Room 1

Shannon Pella

Toward Contextualized Inquiry Models for Teacher Education and Professional Development - Fairmont Waterfront / Malaspina Room



SATURDAY, APRIL 14

8:15 a.m. – 9:45 p.m.

Carrie Strohl

Academic Language of Science: Examining Fourth-and-Fifth-Grade English Learners' Explanations of Moon Phases - Sheraton Wall Centre / South Finback

Juliet Wahleithner

High School Teachers' Instruction of Writing: Negotiation Knowledge, Student Need, and Policy - Vancouver Convention Center / West Room 215 & 216

10:35 a.m. – 12:05 p.m.

Steve Athanases, Lisa Bennett & Juliet Wahleithner

Fostering Data Literacy Through Preservice Teacher Inquiry in English Language Arts - Vancouver Convention Center / East Ballroom C

12:25 p.m. – 1:55 p.m.

Steve Athanases, Lisa Bennett & Juliet Wahleithner

Preservice Teacher Inquiry as a Catalyst in Developing Pedagogical Content Knowledge for English Teaching With Diverse Learners - Vancouver Convention Center / West Room 221

Vajra Watson

Grassroots Pedagogy: Community-Based Classrooms for Social Change - Vancouver Convention Center / East Ballroom C

Pernia Hassan

Building Middle School Students' Literacy with Amazon.com Reviews - Vancouver Convention Center / East Ballroom B

4:05 p.m. – 5:35 p.m.

Nancy Ewers

Disentangling Multiple Sources of Error in Reading Assessments for Students With Disabilities - Marriott Pinnacle / Pinnacle I

4:05 p.m. – 6:05 p.m.

Lee Martin & Pamela Gourley-Delaney

Technological Support for Reflection and Discussion of What Counts as Math - Sheraton Wall Centre / North Junior Ballroom C

SUNDAY, APRIL 15

8:15 a.m. – 9:45 p.m.

Shannon Pella

Toward Participatory Methodologies in Teacher Action Research - Vancouver Convention Center / East Ballroom C

8:15 a.m. – 10:15 a.m.

Tobin White

Collaboration: Activity Designs and Pedagogy to Enhance Small-Group Learning - Sheraton Wall Centre / North Grand Ballroom D

10:35 a.m. – 12:05 p.m.

Heidi Ballard & Emily Evans

Case Studies of Wildfire Education for Youth in the United States: Reinventing Our Relationship to Fire, Community, and the Environment - Vancouver Convention Center / East Ballroom C

12:25 p.m. – 1:55 p.m.

Michal Kurlaender, Heather Rose and Don Taylor

Outcomes of Placing Low-Performing Eighth-Grade Students in Algebra Content Courses - Vancouver Convention Center / East Room 14

◀ Joanne Bookmyer

Paul Heckman and Jamal Abedi ►

Karen Watson-Gegeo, Cirilo Cortez,
Frances K. Holmes, Luis Ramirez, Mayra
Sanchez, Daniela Torres-Torretti &
Marguerite Wilson

*Creating and Being the “We”: A Relational
Counter-Hegemonic Pedagogy in a Graduate
School of Education - Vancouver Convention
Center / East Room 2&3*

2:15 p.m. – 3:45 p.m.

Joanna Wong

*Writing Events in a First Grade Dual-
Language Immersion Classroom of Non-
Dominant Students - Vancouver Convention
Center / East Ballroom B*



MONDAY, APRIL 16

8:15 a.m. – 9:45 a.m.

Jamal Abedi

*Linguistic Complexity of the Assessments -
Marriott Pinnacle / Shaughnessy I*

10:35 a.m. – 12:05 p.m.

Yuuko Uchikoshi & Carrie Strohl

*Role of Vocabulary on Literacy Development
of Spanish-Speaking and Cantonese-Speaking
English Language Learners in the United
States - Sheraton Wall Centre / South Pavilion
Ballroom A*

12:25 p.m. – 1:55 p.m.

Jamal Abedi*

*How Formative Assessments in Mathematics
Can Help Improve Student Performance in
Summative Assessments*

Nicole Blalock-Moore*

*Survey Development for Measuring Math
Formative Assessment Use in Schools*

Kerry Enright

*Raising Standards and Reducing Literacy:
Writing Practices in New Mainstream Subject-
Matter Classrooms - Sheraton Wall Centre /
North Gulf Islands BCD*

Nancy Ewers*

*Formative Assessment Use: A Snapshot From
State Departments of Education*

Paul Heckman*

*Formative Assessment in Mathematics: The
Data Collection Methodology*

Michal Kurlaender

*The Effects of Compulsory Remediation on
Persistence and Time to Baccalaureate Degree
- Vancouver Convention Center / East Room
8&15*

Kimberly Mundhenk*

*What Does Mathematics Formative Assessment
Look Like from a Principal's Perspective?*

Thomas Shirley*

*The Current State of Mathematics Formative
Assessments in the United States As Provided
By Test Publishers*

2:15 p.m. – 3:45 p.m.

Jamal Abedi

*Effectiveness, Validity, and Comparability
of Accommodated and Nonaccommodated
Assessments for English Language Learner
Students in NAEP - Marriott Pinnacle /
Ambleside*

Steve Athanases

*Instructional Scaffolding for Latina/o
Students: Building Toward Disciplinary
Literacy and Academic Rigor -
Vancouver Convention Center / East
Room 8&15*

** All presented as part of a structured
poster session: Exploring Current Status
of Formative Assessments in California's
P-12 Schools As Compared With The
Nation: A National Science Foundation
Funded Project—12:25 p.m.-1:55 p.m.,
Pan Pacific / Oceanview 1&2*

TUESDAY, APRIL 17

2:15 p.m. – 3:45 p.m.

Cassandra Hart

*Contexts Matter: Voucher Use and
Students' Current Schools, Private
School Markets, and Public School
Markets - Vancouver Convention Center
/ East Ballroom A*

SCHOOL OF EDUCATION RESEARCHERS AT AERA 2012

Jamal Abedi, professor of education, is presenting three papers on assessment of English learners and formative assessment of mathematics. He is also making a presentation at the conference of the National Council on Measurement in Education that is running concurrently to the AERA Conference in Vancouver. Abedi is an expert in the use of standardized tests to assess non-native speakers of English.

Steven Athanases, professor of education, is presenting three papers on pre-service teacher inquiry and instructional scaffolding for Latino students. Athanases' research interests include educational equity; English language arts education; gay and lesbian issues in education; multicultural literature and literacy; and teacher education research and policy.

Heidi Ballard, assistant professor of education, is making a presentation on collaborative environmental education research. Ballard's research focuses on examining the process and environmental learning outcomes of participatory research approaches and citizen science efforts for ecological monitoring in conservation and natural resource management contexts.

Joanne Bookmyer, PhD, senior research and evaluation specialist in the School of Education's CRESS Center, is presenting a paper on the Algebra Project as an agent of change.

Kerry Enright, assistant professor of education, is presenting a paper on the literacy opportunity gap between bilingual students and native English speakers. Enright's research focuses on the relationship between everyday uses of English and academic literacy.

Cassandra Hart, assistant professor of education, is presenting a paper on the use of vouchers in education. Hart's research focuses on the effects of school choice.

Pernia Hassan earned her Credential/MA from the School of Education in 2007. Hassan is presenting a paper on building middle school students' literacy with Amazon.com reviews.

Paul Heckman, professor of education and associate dean, is presenting a paper on formative assessment in mathematics. Heckman has expertise in education research and policy across a wide array of issues—from organizing concerned parents to preparing school and community college leaders to developing innovative and engaging curriculum.

Michal Kurlaender, associate professor of education, is presenting a paper on the effects of compulsory remediation on time-to-degree and is co-presenting a paper on the effects of requiring all eighth grade students to take algebra.

Lee Martin, assistant professor of mathematics education, is presenting a paper on technological support for reflection and discussion of what counts as math. Martin's research focuses on people's efforts to enhance their own learning environments, with a particular focus on mathematical thinking and learning.

Kimberly Mundhenk, an analyst in the School of Education, holds a Masters in Public Policy. Mundhenk is presenting a paper on a principal's perspective on formative assessment in math. Her research interests include education policy, English learner education, and teacher preparation.

Shannon Pella recently earned her PhD in Education with an emphasis area in Language, Literacy and Culture with a designated emphasis in Writing, Rhetoric and Composition Studies. Pella is presenting a paper on contextualized inquiry models for teacher education and professional development.

Heather Rose, associate professor of education, is co-presenting a paper on the effects of requiring all eighth grade students to take algebra. Rose's research focuses on the economics of education and school finance.

Don Taylor earned his EdD in Educational Leadership from the School of Education in 2011. Taylor, education programs consultant at the California Department of Education, is co-presenting a paper on the effects of requiring all eighth grade students to take algebra.



◀ Michal Kurlaender



▲ Lee Martin

Yuuko Uchikoshi, assistant professor of education, is presenting a paper on the role of vocabulary on literacy development in Spanish-speaking and Cantonese-speaking English learners. She leads a research program that focuses on the language and literacy development of English learners. Uchikoshi's research examines the literacy development of children in

both their native and second languages. Uchikoshi is also interested in the use of media, including educational television, on literacy development.

Vajra M. Watson, EdD, is director of research and policy for equity in the School's CRESS Center. Watson is presenting a paper on community-based classrooms and grassroots pedagogy and is co-presenting a paper on the Algebra Project. Her research focuses on holistic reform efforts for chronically under-performing schools in rural, suburban, and urban communities. Watson also founded and manages Sacramento Area Youth Speaks and the annual Equity Summit at UC Davis.

Karen Watson Gegeo, professor of education, is co-presenting a paper on a relational counter-hegemonic pedagogy in a graduate school of education. Her research interests include education in developing countries, ethnography and

ethnographic research, geographical areas of Hawai'i and Solomon Islands, indigenous epistemology, linguistic anthropology, literacy and language policy, organizational structure/effectiveness, Pidgin/Creole languages, and social disability studies.

Tobin White, assistant professor of education, is presenting a paper on small-group learning in mathematics. White is an expert in the use of technology in teaching and learning and mathematics education. His current research investigates how collaborative problem-solving among students using portable devices (Texas Instruments calculators) can increase learning in algebra. White is the recipient of the 2012 Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies.

GRADUATE STUDENT PRESENTERS

Lisa Bennett is a PhD student in Education with an emphasis in Language, Literacy and Culture.

Mauelito Biag is a PhD student in Education with an emphasis in School Organization and Education Policy.

Nicole Blalock-Moore is a PhD student in Education with an emphasis in School Organization and Education Policy.

Cirilo Cortez is a PhD student in Education, with an emphasis in Language, Literacy and Culture.

Emily Evans is a PhD student in Science Education.

Nancy Ewers is a PhD student in Education with an emphasis in Learning and Mind Sciences.

Pamela Gourley-Delaney is a PhD student in Education with an emphasis in Learning and Mind Sciences.

Erin Hardie is a PhD student in Agricultural Education.

Frances K. Holmes is a PhD student in Education, with an emphasis in Language, Literacy and Culture.

Luis Ramirez is a PhD student in Education, with an emphasis in Language, Literacy and Culture.

Thomas Shirley is a PhD student in Education with an emphasis in Learning and Mind Sciences.

Carrie Strohl is a PhD student in education, with an emphasis in Language, Literacy and Culture.

Daniella Torres-Torretti is a PhD student in Education, with an emphasis in Language, Literacy and Culture.

Juliet Wahleithner is a PhD student in Education with an emphasis in Language, Literacy and Culture with a designated emphasis in Writing.

Marguerite Wilson is a PhD student in Education, with an emphasis in Language, Literacy and Culture.

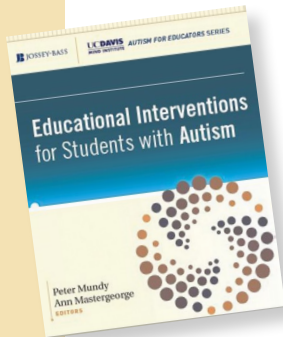
Joanna Wong is a PhD student in Education. Her emphasis is Language, Literacy, and Culture with designated emphases in Second Language Acquisition and Writing, Rhetoric, and Composition Studies.

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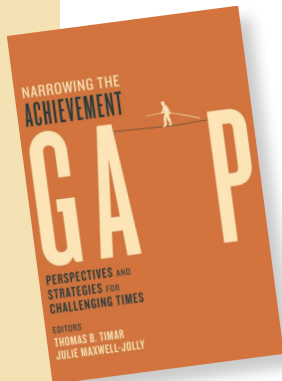
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Featured Publications



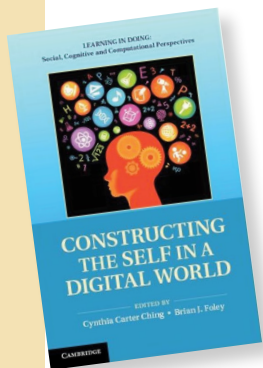
Educational Interventions for Students with Autism **Peter Mundy, ed.**

Educational Interventions for Students with Autism, published as the first in the Autism for Educators series by the UC Davis MIND Institute, has been released. The book is edited by Peter Mundy and Ann Mastergeorge. It provides information on topics related to deepening educators' understanding of the issues and best practices involved in education for autism, including practical strategies for teachers, parents and school administrators. Purchase the book through Jossey-Bass.



Narrowing the Achievement Gap: Perspectives and Strategies for Challenging Times **Thomas Timar and Julie Maxwell-Jolly, eds.**

Thomas Timar, professor and faculty director of CAP-Ed, and Julie Maxwell-Jolly, managing director of CAP-Ed, are the editors of a new book, published by the Harvard Education Publishing Group: *Narrowing the Achievement Gap: Perspectives and Strategies for Challenging Times*. The book is available through Harvard Education Press.



Constructing the Self in a Digital World **Cynthia Carter Ching, ed.**

Constructing the Self in a Digital World, edited by School of Education professor Cynthia Carter Ching and Brian Foley, examines the role of technology in the learning and lives of children and youth. The book, due for release in August by Cambridge University Press, can be pre-ordered through Amazon.com.



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