



Untying Education's Gordian Knot

BOLD IDEAS



INNOVATIVE

LEADER

OPPORTUNITY

ADVOCATE

VISIONARY

SOLUTIONS

MOTIVATOR

EXCELLENCE

CHANGE

IDEAS

PARTNER

FRESH

CATALYST

The *Gordian Knot* of Greek legend represents an intractable problem, one that is impossible to solve by conventional thinking. A peasant named Gordius was crowned King of Phrygia and in gratitude to Zeus, he tied his oxcart to a pole inside the

INNOVATIVE SOLUTIONS

town's temple. For hundreds of years, attempts to untie the knot failed. In 333 B.C., the ambitious Alexander the Great embraced the challenge. He saw the problem was not untying the knot, but freeing the oxcart from the pole. In one bold action, he drew his sword and cut through the knot.

BOLD IDEAS





One thing I love about this place is that people don't have hardening of the categories.

PAUL HECKMAN, professor and associate dean, UC Davis School of Education

ABOVE: Students at West Sacramento Early College Prep share ideas for an essay. The UC Davis School of Education puts research into practice by leading the creation of West Sac Prep with partners, Sacramento City College and Washington Unified School District.

BELOW LEFT: Jessica Scheimer, who received her teaching credential in 2010 and Master of Arts degree from the School of Education in 2011, helps physics students with a lab on measuring sound waves.

BELOW RIGHT: The School of Education prepares students to be leaders in every field of education they may enter—from teaching to policy analysis to research.



BOLD
FRESH
THINKING

INNOVATIVE
BOLD
NIMBLE



A revolution in thought and action is underway at the UC Davis School of Education. Like other leading universities, we apply our research and expertise to ensure a high quality education for all learners. Yet our approach differs. Solving the intractable problems plaguing today's education system requires us to be innovative, bold, and nimble—an epic paradigm shift. Rather than trying to unravel each strand of the Gordian Knot of education, we aim to cleave through its complexity to catalyze change. **Our strategy is nothing short of revolutionary.** Working at the intersection of community, policy, and schools, we collaborate around common goals and tap into the full resources of the University of California, the Sacramento Region and the nation, leveraging a commonality of purpose to lead innovation in teaching and learning.

LEADING THROUGH INNOVATION



How does a university tackle the knot of challenges and competing solutions in education? Especially when that knot has become so complex and intractable that even loosening it seems impossible? The ancient Greek legend offers guidance. One must see a problem anew to find solutions, and it will certainly take more than one modern-day *Alexander the Great* to do so.

The UC Davis School of Education has become **a magnet for the Alexanders and Alexandras** of the world. We are an incubator of new ideas, a place distinguished by its drive to be responsive and relevant. Top-tier researchers and students have chosen the School for its forward-thinking outlook. Here, we pursue unprecedented collaborations. Scholarly research drives focused, bold action. Integration of theory and practice is not merely a goal, but a reality.

California—the most populated state in the nation—is home to the greatest diversity of students and needs. The School's pioneering programs address these needs in new ways. Our programs and their deeply dedicated creators will inspire you to join us in our effort to lead through partnership and innovation.



Innovation and
collaboration are the
keys to transforming
public education.

HAROLD LEVINE, dean, UC Davis School of
Education

Dean Harold Levine shares a laugh with middle school students at the School of Education's unique charter school on opening day in 2008. The students pictured here will have the opportunity to secure up to 30 college credits before completing 12th grade.



At their worst, universities are isolated in an artificial world of academia. At the opposite end of the spectrum is the School of Education. Here you have a marriage between the university and practitioners in the field—an extremely unique bridge that links together theory and what’s actually happening in the classroom.

MARK GEYER, (SELF Cohort of 2009-10), superintendent, Dry Creek Joint Elementary School District

ABOVE: Professor Tom Timar, an expert in education finance, policy and leadership, presents a lecture to undergraduates on the ins and outs of No Child Left Behind legislation and its implications for teaching and learning in public schools.

BELOW LEFT: At a recent meeting of the fifth Superintendent Executive Leadership Forum (SELF), Kirsten Vital, superintendent of Alameda Unified School District, explains to the group how she navigates the complex world of teachers, students and parents to ensure high quality teaching and learning in her community.

BELOW RIGHT: One of the greatest strengths of SELF is the district leaders’ opportunity to network with peers intensively and over time to work together on school reform efforts throughout the state. Pictured, left to right: Dennis Byas, San Lorenzo Unified School District; Esmeralda Mondragon, Calistoga Joint Unified School District; and Shalee Cunningham, Navato Unified School District.



NETWORKING FOR CHANGE



Tom Timar knows the light research can shine on persistent challenges in education. At the same time, the education policy professor and executive director of the Center for Applied Policy in Education (CAP-Ed) insists on translating research into practice. Leveraging the School's expertise in education policy and its partnerships with district administrators, Timar and his team at CAP-Ed have built **a powerful collaborative network of leaders committed to change that matters and works.**

Who better to lead change in schools than those who are charged to lead: district superintendents? Building strong instructional systems requires redefining the system, but many superintendents feel disempowered, isolated from their peers, and limited by policies that seem to have no relation to the learning challenges in their communities. Worse still, universities claim to have research that could inform decision making, but district leaders have little time to ferret out any real world applications.

In response, the School of Education brings together the nation's foremost researchers in education policy and leadership to grow a unique forum for superintendents. Since 2009, the Superintendent Executive Leadership Forum (SELF) has taken more than 60 district superintendents through a year-long, in-depth series of discussions about effecting lasting change in their learning communities. To date, SELF participants represent more than 600,000 students in Northern California.

CREATING

INTELLECTUAL INTERSECTIONS



Twelve-year-old Natalie's grades dropped dramatically in seventh grade. She had a difficult time listening to her teacher, taking notes, and answering questions at the same time. She was autistic.

Being able to pay attention to more than one person at a time, while also processing one's own thoughts, is a must-have skill for adolescents. Yet many children with autism cannot manage complex types of social attention, leaving them behind socially and academically.

UC Davis has become a powerhouse in autism research and interventions in educational settings. School of Education professor Peter Mundy, internationally renowned autism expert and director of education research at the UC Davis MIND Institute (Medical Investigation of Neurodevelopmental Disorders), points to the power of cross-collaboration among researchers and educators throughout UC Davis.

The university's pioneering research on autism and education with preschoolers has led to new studies to improve learning in a wide spectrum of school-age children with autism. Mundy's work is providing new information needed to develop targeted interventions for students like Natalie and others with learning disabilities.



We understand how to improve literacy for all children, and we understand the neuroscience of learning and learning disorders, so even children who have problems in learning can benefit.

PETER MUNDY, Lisa Capps Chair in Neurodevelopmental Disorders and Education

Peter Mundy, professor of education and director of educational research at the UC Davis MIND Institute, holds a multi-year grant from the National Institutes of Health to develop virtual reality educational methods. These cutting-edge techniques can help very bright children with autism improve social and emotional regulation skills, better preparing them to learn and adapt in school and vocational settings. In fall 2009, Mundy launched the development phase of a virtual reality lab, housed at the UC Davis Center for the Mind and Brain.





I might personally impact only a handful of students each year, but if every teacher can have that kind of reach, we have the power to shape a generation.

JESSICA SCHEIMER, alumna, UC Davis School of Education

ABOVE: Jessica Scheimer (Credential '10, MA '11) prepares her AP Physics students for a lab on measuring sound waves.
BELOW: Jessica Scheimer talks with students trying a novel approach to creating various frequencies to measure in their lab. Her teaching strategies encourage risk taking and experimentation among her students.



PREPARING TEACHERS FOR ALL LEARNERS



Jessica Scheimer knows that one great teacher can change a life. Her own high school physics teacher was so passionate about his subject, Scheimer decided to become a science teacher herself.

Today, Scheimer, who earned her teaching credential and master of arts degree at the School of Education, teaches physics at a high school in Sacramento and is one of 36 early career teachers nationwide to win a prestigious five-year \$150,000 Knowles Science Teaching Fellowship. The award recognizes individuals committed to being leaders and change agents in education.

Jessica is an exemplar of the teachers coming up in the School, which prepares its graduates to question the status quo, gather data, identify problems, and implement solutions that meet the needs of a diverse student population.

At the School of Education, we believe **preparing great teachers is essential to achieving meaningful change in education**. “I don’t know of another university that has made teacher education such a single point of focus,” says Professor Christian Faltis, who holds the Dolly and David Fiddymont Chair in Teacher Education. “Our program values social justice and equity among students with diverse abilities and backgrounds.”

Preparing teacher leaders translates into transformative instruction.

A
MOTIVATOR

RUNNING A UNIQUE COLLEGE-READY SCHOOL



Most middle school and high school students await the last bell of the school year with fidgety anticipation. But not Sydney, a ninth grader at West Sacramento Early College Prep. There are no bells at her school. Students in this “college-for-sure” culture are expected to monitor themselves—which they learn to do with plenty of support.

In an unprecedented move to walk the talk of school reform, the UC Davis School of Education forged a unique partnership with Washington Unified School District and Sacramento City College to provide a one-of-a-kind charter school for students like Sydney. In addition to a high school diploma, graduates may earn up to 30 college credits during their high school studies.

The 6–12th grade public charter school, a low-slung structure made of concrete and stucco, sits back on a leafy street in a working-class neighborhood. Sydney, a serene girl with dark bangs and curled ponytail, loves writing and art. Her enthusiasm for learning makes it hard to believe this poised 4.0 student once did poorly in school.

Engaging students is a fundamental goal of the school, which focuses on project-based learning methods that encourage students to pursue their interests. “If students are not honored for what they know, they will lose interest and often drop out,” says Paul Heckman, professor and associate dean of the UC Davis School of Education.

The School believes this unique partnership and approach to teaching and learning will be a breakthrough model for other communities seeking a way to engage students at-risk for dropping out.

RISK
TAKER

The charter school demonstrates the UC Davis School of Education's commitment to what research can do to improve the quality of a community—and not just one community, but in other communities around the globe. Most schools of education aspire to do this, but the School of Education delivers on actually making it happen. They aren't afraid to tackle difficult issues up close.

KATHRYN JEFFERY, president, Sacramento City College



ABOVE: Sydney, a ninth grade student at West Sacramento Early College Prep, conducts research for a paper she is writing in a literature seminar.

BELOW LEFT: Yolanda Falkenberg, executive director of West Sac Prep, challenges a group of students to think more deeply about a book they are reading.

RIGHT: Three high school students work together to dismantle two computers in an effort to connect the two hard drives. At West Sac Prep, students choose projects in the sciences, language arts, and social sciences that interest them. The work is hands-on to provide them with the opportunity to problem-solve and to think like real scientists and researchers.



The School is an incubator of ideas. Its people are eager to take risks to create something new.

DR. LOUIS VISMARA, retired cardiologist, a founder of the UC Davis MIND Institute, and a member of the School's Board of Advisors



Traci Schmidt, founding director of the School of Education's Center for Innovation in Education (EdForward), and Dr. Lou Vismara discuss progress on an innovative project to provide parents and educators with services related to the needs of students with autism. Dr. Vismara, who is a founding member of the UC Davis MIND Institute, a retired cardiologist, and a special advisor to California Senate pro Tempore Darrell Steinberg, also serves on the School of Education's Board of Advisors. He has been a driving force behind EdForward's work to create a unique solution to meet the needs of autistic students and their caregivers.

GENERATING BIG IDEAS, ENTREPRENEURIAL SOLUTIONS



In academia, the trajectory from idea to implementation is often a lengthy process. But big ideas are the medium for invention. EdForward: The Center for Innovation in Education is the School of Education's **bold gamble that it can leverage the know-how, the very engine of the University, to revolutionize the way schools, businesses and communities deliver results for all learners**. In the process, we hope to build a new revenue stream for the School that enables investment in cutting-edge research, programs and collaborations.

Step inside Traci Schmidt's office and the bold thinking that characterizes the UC Davis School of Education is evident. Schmidt, founding director of EdForward, exudes a nimble energy as she talks about projects in the pipeline—hands-on science education, innovative uses of technology, and new connections between parents and schools—that build on the School's strengths.

Launched in February 2010, EdForward introduced several pilot projects the following year—from hosting science-based summer enrichment camps to leading district administrators through a managerial process called Lean Six Sigma. In launching EdForward, the School has plunged headlong into an entrepreneurial model very few education schools are willing to attempt.

AN
ENTREPRENEUR

ADVOCATING FOR ACCESS AND OPPORTUNITY



Cirilo Cortez almost didn't make it to college. Though he arrived in Kern County, California, from Michoacan, Mexico, when he was three, his status as an "English learner" well into his teens trapped him in high school classes that did not meet university requirements, threatening to hold him back.

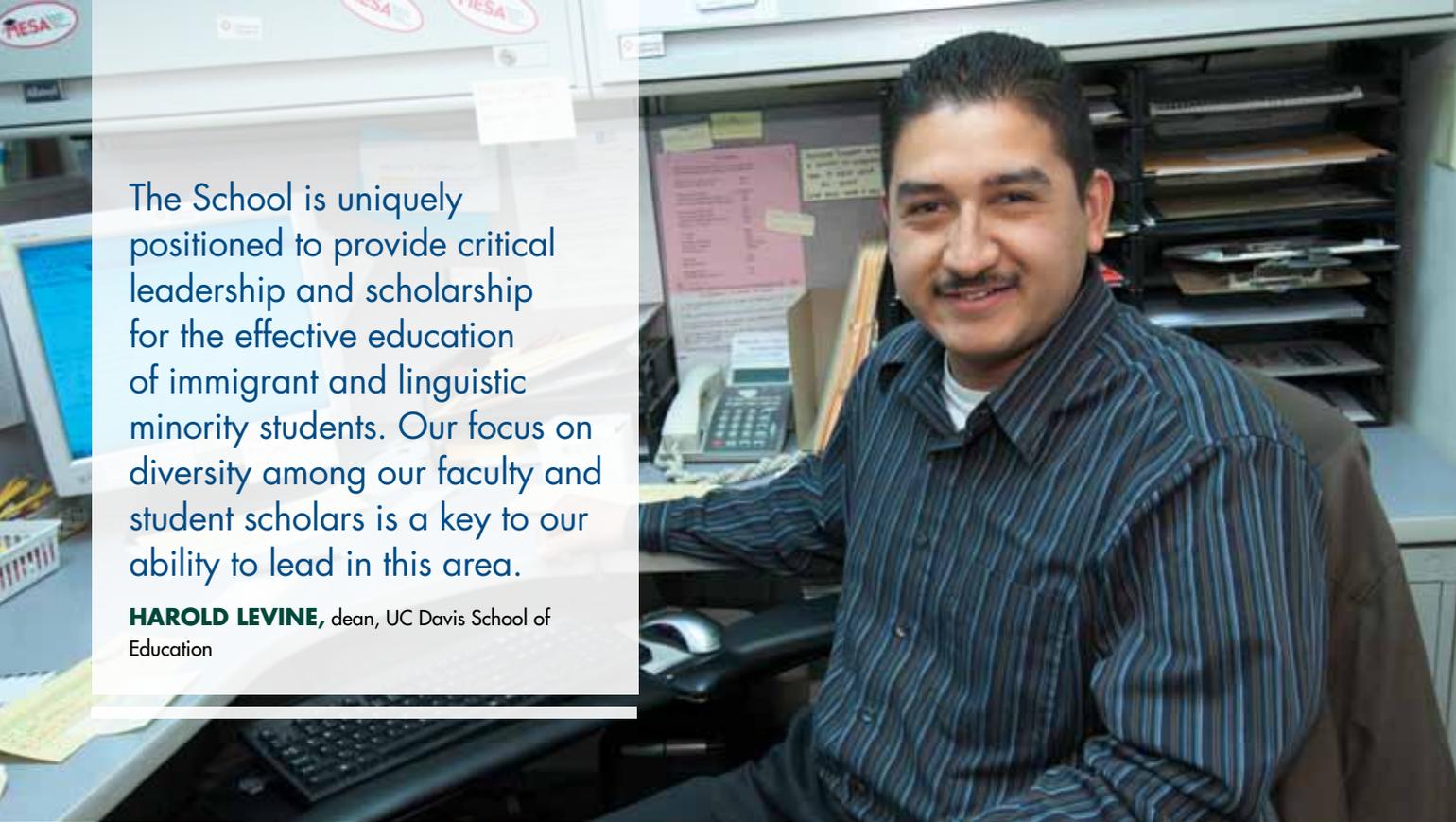
Armed with parents who put a high value on education and bilingualism, Lisceth Cruz arrived in California from Mexico City at the age of 15. Today, she fights for the rights of other immigrants to get a college education.

Both Cruz and Cortez are PhD students in the UC Davis School of Education. Both focus their research on Latinos in education.

Cortez, a Gates Millenium Scholar, is **committed to serving college students like him** through the MESA (Mathematics, Engineering, Science Achievement) program at a local community college. His dissertation documented a successful mentoring program for Latino youth in a local school district.

In addition to her work as a graduate student, Cruz is a leader in the fight for giving undocumented California high school graduates the right to in-state tuition for college and access to financial aid. Her own experience as a Latina immigrant and her research on the role of parental engagement in the lives of first generation college students drive her to **stand up for others**.

"This whole issue is highly politicized, but the truth is these students are the valedictorians of their schools, they are high achievers," says Cruz.

A man with a mustache, wearing a blue and white striped button-down shirt, is sitting at a desk in an office. He is smiling and looking towards the camera. The desk has a computer monitor, a keyboard, and a mouse. There are papers and a calculator on the desk. In the background, there are shelves with papers and a bulletin board with various notices.

The School is uniquely positioned to provide critical leadership and scholarship for the effective education of immigrant and linguistic minority students. Our focus on diversity among our faculty and student scholars is a key to our ability to lead in this area.

HAROLD LEVINE, dean, UC Davis School of Education

ABOVE: School of Education Alumnus Cirilo Cortez (PhD '12) takes a break from his busy schedule counseling students in the Math Engineering Science Achievement (MESA) program at American River College. Through his work, he helps students who are underrepresented in math and science disciplines to transfer successfully to four-year colleges and universities.

BELOW: Lisceth Cruz, who is slated to earn her PhD in 2013, spends countless hours at the State Capitol working as an activist scholar in the fight for equal educational opportunities for Latinos.



Studies are showing that after-school programs are working. Participants are missing fewer days of school, improving their academic achievement, and gaining self-confidence. Our work in STEM education is a great example of the contribution after-school programming can make to the broader goals of public education.

RENEE NEWTON, director, community school partnerships in the School's Center for Cooperative Research and Extension Services for Schools (CRESS)

The California STEM Learning Network's (CSLNet) Summit at UC Davis in 2011 brought together 200 California leaders from education, business, industry and government, to discuss the importance of STEM learning and address barriers to quality implementation in California. The event featured a student showcase to illustrate the power and potential of the high quality STEM learning opportunities that are already happening in California.

TOP: Participants in the Region 3 STEM service learning project at George Washington Carver High School demonstrate their work to an education reporter at the STEM Summit hosted on the UC Davis Campus.

MIDDLE: A student illustrates his work to program simple robots. This opportunity was possible through professional development and support provided to the youth instructor through the UC Davis C-STEM project.

BOTTOM: California Superintendent of Public Instruction Tom Torlakson talks to students from Elk Grove Unified School District's Laguna High School about their alternative energy project.



COLLABORATING FOR **EXCELLENCE** IN AFTER-SCHOOL LEARNING



Grasping the basics of reading, writing and math is often difficult for students who lack support outside of school. The California AfterSchool Network, housed in the School of Education, aims to change that with academic and enrichment programs for under-served students.

Dean Harold Levine likens the School of Education's role in the AfterSchool Network to the captain of a great fleet, **providing central leadership and technical assistance to 40,000 after-school program professionals across the state.**

The Network's vast experience and talent is also leveraged to tackle deeply entrenched needs, such as increasing STEM (science, technology, engineering and mathematics) learning opportunities.

In 2011, the Network launched JumpStarting STEM, an initiative that lays the groundwork to create and implement a statewide system for quality programming in STEM to after-school providers and students. The initiative will eventually reach one million students (nearly 17% of all students) in California.

GIVING VOICE TO A GENERATION



Just a few years ago, Charday Adams didn't write a word of poetry. When she joined the School of Education's Sacramento Area Youth Speaks (SAYS) program as a Grant High School junior, she fell in love with the art of the spoken word. After a year of workshops and mentoring, she won the Poetry Slam at the first SAYS Summit in 2009.

Two years later, returning from her studies at the University of Southern California to lead a workshop at the third annual SAYS Summit, Charday—in jeans and bright-blue T-shirt that reads School is my Hustle—looks like the other young students in her workshop.

“What would you die for?” she asks her workshop students. By extension, she challenges them to think about what they are willing to live for. Students write. Afterward, some come to the front of the room to perform or read what they have written. Their stories are of friends killed by gunfire, and parents who drank, did drugs, and abandoned them.

The underlying philosophy of SAYS is “education for liberation.” To reach this lofty goal, SAYS partners with school districts, teachers, and community leaders to offer school assemblies, classroom residencies, after-school workshops, and open-mic events.

In all, SAYS serves over 10,000 young people in the Sacramento region each year, teaching them to find and develop their voice through the written and spoken word. By performing their work, they gain confidence and learn how their voices can be used to effect positive social change.

Engagement is the barometer by which we gauge our success.

VAJRA WATSON, director, research and policy for equity, and founder of Sacramento Area Youth Speaks (SAYS)



ABOVE: Sacramento Area Youth Speaks (SAYS) poet mentors take a quick break during an all-day SAYS Summit. Each year, nearly 1,000 middle school and high school students spend a day at UC Davis attending workshops on writing and social justice, participating in dance battles, and sharing spoken word poetry.

BELOW LEFT: Charday Adams, now a junior at the University of Southern California, competes in SAYS' first regional poetry slam. Adams went on to win and compete as a member of the SAYS team at the International Brave New Voices competition.

BELOW RIGHT: Vajra Watson, director of research and policy for equity at the School of Education and founder of SAYS, gets on the mic to energize the crowd at a SAYS poetry slam competition.





ABOVE: Elizabeth Altschule (Credential '05, MA '06) talks with students at West Sacramento Early College Prep where she teaches language arts.

BELOW LEFT: Comfort Ateh (Credential '00, PhD '10) celebrates at graduation as Cindy Passmore, associate professor of science education, places a School of Education stole on her. Dean Harold Levine looks on.

BELOW RIGHT: A middle school student reviews an essay at West Sacramento Early College Prep, a unique 6th-12th grade school run by the School of Education, in partnership with Washington Unified School District and Sacramento City College. The first class of 12th graders will graduate in 2013.



TAKE ACTION



Join us in our drive to change the way education is done. Help us catalyze new ways of looking at old problems. Together, we can apply fresh thinking and bold actions to education's perennial challenges and take on the Gordian Knot of education for all learners.

GET INVOLVED

- Learn more about the School's students, faculty and programs at education.ucdavis.edu.
- Stay informed by signing up for the School's e-newsletter at education.ucdavis.edu.
- Support the School by contacting Adrienne Capps, assistant dean for development and external relations, at (530) 754-7024 or adcapps@ucdavis.edu.

ABOUT UC DAVIS



UC Davis is a powerhouse of a public research university, with a constellation of programs and interdisciplinary research initiatives found nowhere else. Some of UC Davis' distinctions are highlighted here.

OVERVIEW

- Founded: 1905 (first students admitted 1908)
- Campus Acreage: 5,300 acres (largest UC campus)

SCHOOLS AND COLLEGES

- College of Agriculture and Environmental Sciences
- College of Biological Sciences
- College of Engineering
- College of Letters and Science
- School of Education
- School of Law
- School of Medicine
- School of Veterinary Medicine
- Betty Irene Moore School of Nursing

PEOPLE AND PROGRAMS

- Student enrollment: 32,653
- Living Alumni with Degrees: 205,755
- Undergraduate Majors: 102
- Graduate Programs: 88

RANKINGS

- 9th among public research universities nationwide and 38th among public and private research universities (U.S. News & World Report's 2012 "America's Best Colleges")
- 14th in the 50 top U.S. universities evaluated in best return on tuition investment (Smart Money 2009)
- 10th in research funding: UC Davis received \$678.6 million in research awards in 2009-10, a record for the campus and the sixth consecutive year that research funds have topped a half-billion dollars

For more facts about UC Davis, visit the campus website at facts.ucdavis.edu

UC DAVIS

SCHOOL OF EDUCATION



FOUNDED 2002

ACADEMIC PROGRAMS

- Undergraduate Minor in Education
- Teaching Credential/Master of Arts
- Master of Arts
- Doctor of Education (EdD)
- Doctor of Philosophy (PhD)

STUDENTS

- Enrollment: 583
- Men: 28%
- Women: 72%
- Graduate Fees & Tuition: \$15,272¹
- Students Receiving Grants & Scholarships: 34%
- Doctoral Students with Appointments: 50%
- Mean Undergraduate GPA: 3.33

STUDENT ETHNICITY, BY PERCENTAGE

- American Indian or Alaska Native: 2%
- Asian: 16%
- Black or African-American: 6%
- Hispanic/Latino: 14%
- Native Hawaiian or Other Pacific Islander: 1%
- Unknown: 4%
- White²: 57%

FACULTY

- Full-time: 35 (91% hold doctoral degrees)
- Part-time: 12
- Men: 40%
- Women: 60%
- Research Funding: \$5.2 million

ALUMNI

- Living Alumni with Degrees: 7,008
- Alumni Residing in California: 83%

U.S. NEWS AND WORLD REPORT RANKINGS

- Overall: 58
- Top 23% overall of ranked schools of education nationally
- Top 14% in best overall reputation of ranked schools of education nationally
- Top 12% in non-academic reputation of ranked schools of education nationally
- Top 16% in academic reputation of ranked schools of education nationally
- Top 24% in competitive acceptance rate of ranked schools of education nationally

Data included here based on 2011-12 academic year

¹ Full-time, in-state residency

² Non-Hispanic/Latino



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INNOVATIVE SOLUTIONS

BOLD IDEAS



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