

advancing

UCI SCHOOL OF EDUCATION

The Value of College

Times have changed. So has the college experience. An inside look at the innovative study that is providing insight into the value of college by tracking student behavior inside – and outside – the classroom.

OCEAN

The network of K-12 partnerships that is transforming Orange County education
Page 10

WRITE Center

A new IES-funded center addressing the crisis of argumentative writing
Page 15

Child Poverty

Can it be reduced by 50 percent within 10 years? How, and at what cost?
Page 22

Building Character

Studying the impact of afterschool activities on character development
Page 25

advancing

IMPROVING LIVES THROUGH ADVANCING THE SCIENCE OF EDUCATION



FEATURES

Aldrich Park in the center of campus at the University of California, Irvine

3



The Value of College

Is college worth it? The complex and increasingly pervasive question is being explored through an innovative, state-of-the-art study at the School of Education. What researchers find will be used to assess and improve undergraduate education across the nation.

10



Turning the Tide

The School of Education is teaming up with a growing number of local K-12 schools to create partnerships that address the schools' specific needs. Through this network, they are transforming Orange County education.

On the Cover: Left, students study in Langson Library. Date, names and photographer unknown. Right, students study in the Anteater Learning Pavilion, November 2018. Photo on right by Elena Zhukova.

15



WRITE CENTER

With a \$5 million grant from the Institute of Education Sciences, the newly established WRITE Center is poised to become a national center for the study of secondary writing.

18



The CAMP STEM Program

The California Alliance for Minority Participation – a program in the School of Education's Center for Educational Partnerships – provides programming, resources and mentorship to increase underrepresented minority participation in STEM across disciplines.



DEPARTMENTS

- 2 Dean's Message
- 22 Faculty Research
- 34 New at the School of Education
- 38 Alumni
- 45 Giving

» DEAN'S MESSAGE



Richard Arum | Dean, Professor of Sociology and Education

Welcome to the third annual issue of the UCI School of Education magazine, "Advancing." The title of this magazine is apropos of what the School of Education strives to accomplish every day on campus and in our community – advance the science of education, improve educational outcomes across the entire lifespan, and enable people from all backgrounds to achieve the American Dream.

This past academic year, more than \$36 million in grant money was awarded to our faculty - more than \$1 million per full-time faculty. As of June, our faculty were principal investigators on grants whose combined total exceeded more than \$90 million. These projects are funded by the most illustrious agencies in the country - the U.S. Department of Education, the National Science Foundation and the National Institutes of Health, to name a few.

In November 2018, the Andrew W. Mellon Foundation named UCI as the national pilot site for an interdisciplinary team of researchers, led by the School of Education, to study approaches that will increase our understanding of what makes an undergraduate education so valuable. Over the next couple of years, we will gather data that captures the student experience at UCI, and create tools so that other universities can undertake similar efforts to improve education on their campus. More information on this groundbreaking initiative can be found on page 3.

Our campus is located in the heart of Orange County, the nation's sixth most populous county. Surrounding us is a diverse K-12 student population and dozens of school districts whose goals and demands are

rapidly evolving. It is our responsibility as a leading public research university and preeminent school of education to facilitate conversations that address these needs, and establish partnerships that create tangible improvements.

In fall 2018, we launched the Orange County Educational Advancement Network (OCEAN). This network places School of Education faculty and doctoral students at local partnership schools to collaborate with school leadership and produce scholarship that addresses targeted, unique areas of need. More information about OCEAN can be found on page 10.

OCEAN is just one of the many ways that the School of Education addresses the entire lifespan. We produce scholarship that studies early childhood development; our partnerships improve outcomes for K-12 students; we host programs that support our undergraduate population and community college students seeking to transfer; and we lead workshops for current teachers and administrators to further their professional development. Orange County is our classroom.

We are also pleased to announce the School of Education Alumni Chapter at UCI. It's important to honor those who have come before us, and the School of Education's standing has been emboldened thanks to the more than 10,000 alumni who have passed through our halls. These individuals have gone on to lead nonprofits, businesses and school districts; teach elementary and high school classes; ascend the ranks of professorship; and inspire future generations. While they may have relocated across the globe and found themselves leaders in various industries, through this Alumni Chapter, they will always have a home at UCI. More information about the new chapter, and ways to get involved, is available on page 40.

In June, we graduated more than 500 students from our three degree programs. This fall, we welcome 29 new students to our doctoral program, an all-time high. As our entire community continues to grow, so too does the impact we can make in the lives of so many. I look forward to working with you all – together we are building a model for what a 21st century school of education can, and should, be.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Arum". The signature is fluid and cursive, with a long horizontal stroke at the end.

Richard Arum
Dean and Professor
UCI School of Education



The Value of College

The School of Education is creating a measurement system that will track student experience and outcomes to provide insight into the value of an undergraduate education. Soon, other universities will be able to replicate and implement our approach on their own campus.

Is college worth it?

It's a now-ubiquitous question that is becoming more complex as the global economy is changing, student debt is rising, and an increasingly diverse student body is matriculating to campus every fall.

Ask a dozen people the question, and you'll get a dozen answers, each fraught with anecdotes and anxieties, opinions and caveats.

"Existing research is inadequate to truly address the question in a meaningful way," said Richard Arum,

dean and professor at the School of Education. "If we want to really identify the value of college, we need to design new instruments and collect better data."

UCI is serving as a pilot site to accomplish just that. This fall, work began on the *Next Generation Undergraduate Success Measurement Project*. Arum, the study's principal investigator, and a team are in the process of developing and implementing ways to improve our understanding of the value of undergraduate educational experiences, and promote evidence-based models of undergraduate student success.

The study, supported by the Andrew W. Mellon Foundation, tracks for two years a random sample of 500 UCI freshmen, 250 junior transfer students, 250 continuing juniors, and 50 freshmen honor students. Everything from transcripts to online classroom behavior, living situations to student moods will be considered.

“There’s been a huge change in technology that makes it a lot easier to capture data, regardless of industry,” Arum said. “Companies are hungry for data, and use data to improve consumer experiences; we’ve seen this trend in healthcare, entertainment, and it’s time for it to come to higher education. It’s possible to figure out what students are doing and make use of that data.

“Frankly, it’s irresponsible not to.”

Capturing the Data

Data on the 1,050 UCI students will be collected in three different areas, or strands. Each strand is overseen by a School of Education faculty member. The data collected from each strand will work in concert to paint a complete portrait of undergraduate student experience.

The first strand is collecting data on social background, secondary academic preparation, and collegiate course performance. This strand is led by Assistant Professor Rachel Baker and Michael Dennin, dean of the Division of Undergraduate Education and vice provost for Teaching and Learning.

“A lot of this data has existed for a very long time, but we haven’t been using it to improve student experiences or outcomes,” Baker said.

Data in this strand will help the research team better understand how a student moves through the university – what classes they take, in what sequence, and the diversity of their peers in the classes they take.

The second strand examines student clickstream activity in the Canvas Learning Management System, the most widely used platform for UCI courses. The strand is led by Professor Mark Warschauer, who is also director of UCI’s Digital Learning Lab, and has previously studied online learning systems.

“A lot of clickstream research looks at particular classes, and we know that frequency of posts, or how spread out interactions are can be predictors of

A student studies in Langson Library on the campus of UCI.





The newly established Anteater Learning Pavilion on the campus of UCI, where some of the study's research will be conducted. The building's collaborative spaces will lend themselves to work alongside the Division of Undergraduate Education, and can accommodate national and international visitors interested in the study.

student performance,” Warschauer said. “What’s been done much less is looking at clickstream behavior across courses, together with other kinds of administrative and survey data to broadly understand student experience.”

The third and final strand utilizes innovative survey and experiential sampling methods to capture student experiences. Surveys that measure psychological functioning and assessments that measure cognitive performance will be administered at the beginning and end of the two years.

A subgroup of the population will also receive random text messages over the course of two years. The messages will ask questions to capture students’ emotional state at any given moment. Questions can include where the students are, what they’re

doing, how they’re feeling, and their interest level in the activity. Students will also receive a “daily diary” prompt where they’ll be asked to share their experiences over the past day or week.

The third strand is being overseen by Arum and Distinguished Professor Jacquelynne Eccles.

“We will be able to be descriptive as to what college looks like – what percentage of kids are doing a certain activity, and what percentage of students are feeling a certain emotion,” Eccles said. “We can then look at it from an individual level, and begin to see pathways through college. For example - we can analyze who ends up developing mental problems, who chooses certain majors, who changes majors, who drops out.”



Students outside of UCI's student center.

It's no secret that any one source of data can have its limitations. Combining three different data types, however, can reveal new patterns and findings in areas that have been both examined and unexplored.

"It's a mistake to think that it's all about academics in higher education, and that everything that's important happens in a classroom," Arum said. "Students spend most of their time socializing, in extracurricular activities, or at work, and an increasing amount of classwork is being done online. This study considers all those factors."

Spreading the Word

A main goal of the study is to not only understand the student experience at UCI, but also create tools that other universities can replicate to assess the undergraduate experience on their own campus.

The findings from the UCI study will inform the development of a large-scale longitudinal study of college and universities coordinated by the Inter-university Consortium for Political and Social Research

(ICPSR) at the University of Michigan. The ICPSR stores, curates, and provides access to scientific data for others to use and validate research. Approximately 776 universities, government agencies, and other institutions are members of ICPSR.

"Our goal is to establish a set of tools and practices that others can then apply in their own settings to improve practice," Arum said. "These efforts are a way to make visible student experiences, perspectives and realities, which are not always obvious to faculty or administrators."

It's a mistake to think that it's all about academics in higher education, and that everything that's important happens in a classroom.

The study emerged out of the Mellon Foundation's Value of the Liberal Arts initiative, which identified the need for deeper, more holistic and authentic measurements of student experience and outcomes, and for the findings to be utilized nationally.

"Colleges and universities face growing pressure to prove their value to their students and society at large," said Mariët Westermann, Mellon Foundation executive vice president for programs and research. "Developing thoughtful and robust models and measures of the economic, social, and personal outcomes of a liberal arts education will greatly help all of us understand better what the worth of such an education is, and communicate that value to academic decision makers and the public."

Leading the Conversation

Arum called UCI the perfect setting for the study, as the university believes in a data-driven approach and in the power of interdisciplinary research, science and measurement. Additionally, he said, the university is committed to serving its students. "Those conditions don't exist in higher education as broadly as one might hope," Arum said.

Educational Testing Services (ETS), the world's largest private nonprofit educational testing and assessment organization, has built innovative, proprietary tasks for the project. The tasks will measure college students' perspective taking, confirmation bias, collaborative problem-solving, and critical thinking – all skills deemed important for both higher education and the workforce.

"ETS's wide-ranging experience in innovative assessment makes it a unique partner to the UCI School of Education in this important assessment effort," said Lydia Liu, senior research director at ETS. "There is a lot of agreement on the importance of core competencies such as critical thinking and collaborative-problem solving, but due to the complex, multi-dimensional nature of such skills, assessment has always been a challenge. The tasks we are developing closely with the team led by Dean Arum will produce findings that have great potential to shed light on students' preparation in these core skills."



An undergraduate student moves into her dorm room on campus. The research project is taking an innovative approach to studying the value of undergraduate educational experiences, as it will track students in and out of the classroom.

Some of the study's research will be conducted in UCI's new Anteater Learning Pavilion, a 65,000 square foot facility that brings active learning and 21st century educational opportunities to students across the campus. The facility is home to two lecture halls, 10 classrooms, meeting rooms, computer labs and other collaborative spaces.

In those collaborative spaces, Arum explained, the School of Education can work alongside the Division of Undergraduate Education, and bring in national and international visitors who are interested in the study and in seeing how UCI supports and enriches the academic experience of undergraduates.

"We're leading conversations on how to better serve undergraduate students, and how leadership can think of institutional improvements that are driven by data and measurement," Arum said. "We're uniquely positioned to do this work."

Meet the Team

Next Generation Undergraduate Success Measurement Project

These five UCI faculty are leading the three strands of research. The research team also features 25 faculty from more than a dozen universities, including Harvard, Stanford, Columbia, UC Berkeley, and NYU, along with a team of UCI doctoral students and postdoctoral researchers.



Richard Arum – The dean of the School of Education, Arum is principal investigator on the study. A social scientist, Arum has previously studied student experiences and college preparation.

His 2011 book, *Academically Adrift*, raised questions about the academic and social experiences of college students, and offered solutions for how colleges can renew an emphasis on learning. Previously the chair of NYU's Department of Sociology, Arum came to UCI because of the university's commitment to interdisciplinary research, and its unique reputation in supporting students to achieve their American Dream.

"By joining UCI, I felt like I could do more than what is generally required of an education dean. With this study, we can begin to think of how to reposition a school of education in a 21st century university, so that one of its main functions is helping support students on its own campus."



Rachel Baker – Baker is an assistant professor at the School of Education, and will oversee the administrative data strand. This summer, she was awarded the highly prestigious NAEd/Spencer

Postdoctoral Fellowship to continue her research study, *Structural Barriers to Academic Success: The Case of Complex Curricular Requirements in Community Colleges*. She was also awarded a \$2.5 million grant from the National Science Foundation to examine community college students' perceptions of the benefits of and barriers to cross-enrollment in STEM courses.

"This project is fascinating because we get to look at student experience in abstract ways, and we have a large, robust team looking at the same thing from many different angles. It's my hope that this leads us to understand how schools can better understand their students, and that we can give actionable advice to schools on how they can help their students graduate and succeed."

We've pulled together a world-class interdisciplinary research team.

– Richard Arum



Michael Dennin – Dennin is dean of UCI's Division of Undergraduate Education; vice provost for Teaching and Learning, and a professor of Physics & Astronomy. Dennin, who is serving as

co-principal investigator on the study, will also oversee the administrative data strand.

"UCI is at the forefront of educational science and has the institutional capacity to lead this project. Our Division of Teaching Excellence and Innovation has organized an integrated, student-level data set and established processes to ensure easy access by researchers to expedite improvement efforts."



Jacquelynne Eccles – A distinguished professor at the School of Education, Eccles is a developmental and motivational psychologist who is interested in academic motivation and

achievement, educational settings' function as social settings, and early adulthood development. She has been honored with several awards, including the Kurt Lewin Memorial Award for "outstanding contributions to the development and integration of psychological research and social action" from the Society for the Psychological Study of Social Issues. She has also received multiple lifetime achievement awards, including from the American Psychological Association.

"There are a lot of people out there who want to know if college is accomplishing what it set out to accomplish, and what its goals are and should be. We don't really know what this thing called college looks like anymore."



Mark Warschauer – A professor at the School of Education, Warschauer is also director of the Digital Learning Lab, where, together with colleagues and students, he works on

a range of research projects related to digital media in education. He is the principal investigator on the \$2.5 million National Science Foundation grant, *Investigating Virtual Learning Environments* and the \$3.5 million Institute for Education Sciences grant, *Digital Scaffolding for English Language Arts*. He is the author of multiple books, most recently: *Learning in the Cloud: How (and Why) to Transform Schools with Digital Media*.

"There's more data available now than ever in human history, and all data could reveal something about student experience. We should be using that for the social good. This study will give us a rich understanding of student experience, and we can really help students succeed, graduate, and have the lives and careers they need."



Turning *the* Tide

The UCI School of Education is teaming up with a growing number of local schools to create partnerships that address schools' specific needs. Through this network, OCEAN, they're transforming Orange County education.

A single partnership with a local school can have a wave of impact on learning outcomes for a subset of the population.

A network of partnerships working in concert, however, can be the series of waves that turns the tide and transforms education across an entire county, region, or country.

In fall 2018, the UCI School of Education partnered with six local schools to establish the Orange County Educational Advancement Network (OCEAN). Through these research-practice partnerships, a School of Education faculty member and a doctoral student are matched with a local school, and the partnership team works with school leadership to

identify greatest needs and goals, and conduct research that will positively impact the school.

The schools then meet with one another to identify and address their common, complex problems. Orange County schools, alongside the School of Education, can then mobilize to implement a measured, trackable improvement plan that identifies and disseminates effective practices to affect multiple schools simultaneously. The resulting work is known as a Networked Improvement Community (NIC).

Since fall 2018, the number of partnering schools has grown, with plans to expand to 18 schools in fall 2020.

From left, doctoral student Yenda Prado, Associate Professor June Ahn, and doctoral students Jennifer Renick and Chris Wegemer. The quartet works on organizing local schools' greatest needs and goals at the School of Education's first NIC dinner in April.

“Well-designed partnerships can provide formative, on-site research; instructional support for teachers; and longitudinal analysis of student performance,” said Richard Arum, dean and professor of the UCI School of Education. “These partnerships are creating a national model for how to advance the science of education into both the community and the university.”

“The UCI School of Education is a true partner to our schools, engaging in meaningful research and evidence-based practices that advance our understanding of teaching and learning while promoting equity and opportunity for all students,” said Dr. Al Mijares, Orange County Superintendent of Schools. “The School of Education is contributing to the fulfillment of our vision that Orange County students will lead the nation in college and career readiness and success.”

Why OCEAN?

OCEAN is unique in a few ways. First, the targeted research allows school leadership to tell UCI faculty and doctoral students what they’d like to focus on, making sure that research directly arises from community needs. Collaboration with other schools then produces change at a systemic level. It’s a “best of both worlds” scenario, as schools experience improvement at a micro and macro level.

“It’s hard to have everyone just do their own thing if you want to improve something district, city, or county-wide,” said Associate Professor June Ahn. “When everyone focuses on a goal, however, and we can both measure the goal and thoughtfully attend to all the barriers and work processes for that goal, then you can start to see systemic improvement.”

In April, representatives from OCEAN schools – including principals, teachers, parents, counselors, and district and city board members – came together for the first time to discuss their work. Participants were asked to write down their schools’ greatest strengths and needs, and their notes were grouped into themes alongside other schools’ replies.

“You don’t want the ideas to just come from a faculty member or another random person,” Ahn said. “In that case, you’re setting an agenda and recruiting people. Instead, we’re seeding ideas for what larger projects can and should be.”



Local educators work through an exercise at the School of Education’s first NIC Dinner in April.

Ahn joined the School of Education in fall 2018 from the New York University Steinhardt School of Culture, Education, and Human Development. He was recruited to UCI in large part to help create and lead OCEAN.

“The job posting specifically called for a professor of research-practice partnership, and I don’t think there’s ever been a call like that before,” Ahn said. “It speaks to what we’re trying to accomplish here - all schools of education around the nation partner and work with the community, but we’re trying to do that more systematically here in Orange County.”

Another unique aspect of OCEAN is that any interventions are quickly and easily adaptable. A large reason for this is because the research is data-intensive. By collecting data and iterating on it quickly, schools can improve dynamically. This approach is different from some traditional academic research, Ahn said, where studies take years to complete and results are shared only after the study is finished.



From left: Doctoral Students Maricela Banuelos, Jacob Steiss, Ha Nguyen, Associate Professor June Ahn, and doctoral student Chris Wegemer discuss their research.



UCI Doctoral Student Chris Wegemer reads through school sites' common goals and needs at the School of Education's first NIC dinner in April. Wegemer worked with Samueli Academy last academic year.

"We want to work together from the start – rapidly organize, come up with an idea, map everything out, then commit to a plan over the course of 10-12 weeks," Ahn said. "With a strong focus on data and dynamic collaboration, schools can measure change and see improvement quickly, or see that something isn't working, and pivot."

Though there is only one School of Education faculty assigned to each of the school sites, OCEAN has the full support of the entire School of Education faculty and their breadth of knowledge. Therefore, if a NIC project arises that necessitates expertise in a given area, a School of Education faculty can be called upon to lead efforts.

"Our faculty are leading experts in a wide-range of subjects, and collectively they study the entire lifespan: from early childhood to professional development for teachers, and everything in-between," Arum said. "Anything that our school districts are in need of, we can lend support."

Training the Future

Not only does OCEAN improve the learning experiences of the county's diverse student body, but it also instills in doctoral students the experience of conducting targeted research that addresses concrete, pragmatic needs.

"Being a part of OCEAN has given me invaluable experiences in co-designing research for improvement with school partners," said Ha Nguyen, the doctoral student stationed at Willard Intermediate in Santa Ana. Nguyen created a dashboard to facilitate conversations with teachers about school connectedness and students' English language development. "The most important lesson for me is learning how to communicate research to different educational stakeholders, such as the principal, teachers and district staff."

Chris Wegemer, the doctoral student assigned to Samueli Academy in Santa Ana, designed surveys in order to inform school practices and guide strategic interventions related to the school's STEM-focused curriculum. He said the experience of working directly with teachers and administrators was particularly

beneficial, as he learned how a public school system uses data.

“The process of establishing a research-practice partnership is complex, but it seems to be one of the most effective ways for data to inform practice,” Wegemer said. “I am committed to social justice and applied research that targets pressing issues; going forward as a professor, I will be much more capable of partnering with schools and community members.”

Ahn said the lessons doctoral students learn from OCEAN will help them in their future careers and the communities they serve.

“You can imagine graduate students who have been trained in this network, who are now faculty all over the country,” Ahn said. “They’ll be able to direct and steer similar initiatives in their respective communities, and improve education across the nation.

“They’ll have been trained in, and spreading knowledge of, ‘The UCI Way.’”

Growing the Network

Arum wants to grow OCEAN to 18 schools for the 2020-21 school year. Not every school needs to participate in a given NIC project, so every additional school added to OCEAN exponentially increases the number of potential collaborations. Each of the partnerships is privately funded.

“Soon we’ll be at a point where districts, cities and counties can quickly implement targeted, measured, systemic changes,” Arum said.

With a strong focus on data and dynamic collaboration, schools can measure change and see improvement quickly, or see that something isn’t working, and pivot.

With a population of more than 3 million, Orange County is the sixth most populous county in the country. The districts’ needs are constantly evolving, but student support remains paramount. In particular, schools continue to research and implement ways to accommodate students who are traditionally not supported as well, be it an ethnic or socio-economic gap.

“The goals for this network – developing innovations that improve pathways for underrepresented students – those are things that everyone should be happy to collaborate on, and to share and gain from one another,” said William F. Podlich, the former CEO of PIMCO and UCI Trustee. Podlich funds three of the partnerships in OCEAN. More on Podlich’s contributions to OCEAN can be found on page 46.

“UCI’s School of Education is changing the landscape for public education in Orange County,” said Stacey Nicholas, a UCI trustee. Nicholas is funding a partnership with Breakthrough San Juan Capistrano and Marco Forster Middle School. More information on Nicholas’s contributions to the network can be found on page 48. “The data-driven research of OCEAN will shape new methods of teaching and learning, and will serve as a model for the rest of the nation.”

Ahn envisions a future in which the network is comprised of 18 local schools, each with a doctoral student producing a research paper annually and contributing to local school improvement efforts. Over the course of a decade, he says, the numbers and impact start adding up.

“You take a full network over 10 years – that’s 18 sites, 180 papers, 180 wins. Plus, graduate students’ careers have launched because they’ve been able to undergo this partnership research, and the region has mobilized around an improvement idea and we’ve moved the needle and shown it to the rest of the country.

“That’s the dream.”

How OCEAN Works

1 RESEARCH PHASE

A UCI School of Education faculty member and doctoral student are assigned to each school in the OCEAN network. Working together, the partnership team identifies goals and challenges, and produces a piece of research that addresses a specific need of the school.

UCI School of Education



Each partnership between the UCI School of Education and a school site produces a unique piece of research. The research is data-driven and specific to the school, and its results can be acted upon immediately.

2 EXPLORATORY PHASE

The School of Education then brings together the schools to identify common challenges, best practices and shared goals.

UCI School of Education



3 NETWORKED IMPROVEMENT COMMUNITIES

Local schools, alongside the School of Education, can then implement a measured, trackable improvement plan. This group is known as a Networked Improvement Community, or NIC. Not every school needs to participate in a given NIC project, so from a network of 18 schools, there exists thousands of possible combinations of participants and areas to focus improvement efforts.

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UCI School of Education





WHAT IS THE FUTURE OF *writing* IN THE UNITED STATES?

The newly established WRITE Center is poised to become a national center for the study of secondary writing.

The Common Core State Standards stress that literacy shouldn't just be the realm of the English teacher; rather, it should be shared across all content areas.

Despite this, there are a growing number of under-prepared secondary students when it comes to argumentative writing, particularly in areas other than English language arts. Additionally, more academic research exists on reading than writing, and there is more focus on elementary school students than middle and high school students.

The Writing Research to Improve Teaching & Evaluation (WRITE) Center, led by Professor Carol Booth Olson, seeks to fill the research gap and address the growing crisis. Established in March 2019

with a \$5 million grant from the Institute of Education Sciences (IES), the WRITE Center will analyze the source-based argument writing of middle and high school students in English language arts and history.

This analysis of argument writing across the grade levels in two disciplines will make it possible to determine what features of high-quality writing in history are like or unlike the features of high-quality writing in English language arts.

The Center will then develop, field-test, and pilot an innovative writing intervention involving professional development focused on source-based argument writing for middle school and high school history teachers.



Professor Carol Booth Olson is leading the WRITE Center, an IES-funded project that seeks to improve secondary students' argumentative writing.

"Our vision for the WRITE Center is that it will be more than something specifically geared toward doctoral students and researchers," Olson said. "We want to make different tools, data and strategies widely available to practitioners, and for the Center to be an exciting hub for classroom teachers to come to."

The research will be supported by Olson and UCI School of Education Professors Mark Warschauer, Young-Suk Kim, Penelope Collins, a host of UCI doctoral students, and Arizona State University Professor Steve Graham.

Olson attributes the team's proven research as a key factor in winning the grant from the IES. In 2018, Olson was awarded a \$14.7 million Education, Innovation and Research grant from the U.S. Department of Education to expand the Pathway to Academic Success Project, which Olson created in 1996. The Pathway project is a multiyear professional development program for teachers that promotes an instructional approach to enhance the thinking tools that students use to understand, interpret and write analytical essays to enhance academic outcomes for students from low-socioeconomic

status, high-need schools with large populations of English learners. The project has already been implemented in 10 Southern California school districts, with plans to extend into Arizona, Illinois, Minnesota, Nevada, Texas, Utah and Wisconsin.

Since 1978, Olson has served as director of the UCI Writing Project. One of 200 sites of the National Writing Project, the UCI Writing Project has trained 1,000 teachers from 90 local school districts and 13 colleges and universities. It was the first California Writing Project site to create a summer youth program, which has grown from 35 students and two teachers in 1984 to more than 2,500 students and 200 teachers per summer.

"One of the reasons the IES liked our proposal is because we already have an infrastructure of more than 200 writing project sites across the U.S., and some internationally, via the National Writing Project," Olson said. "Our team has already produced strong evidence of interventions impacting English language arts writing, particularly students in low-socioeconomic status schools and students who speak English as a second language."

One research and development focus of the WRITE Center is to develop an intervention to enhance the source-based argument writing of students in history classes. The research team will begin by looking at intervention strategies from three successful English language arts programs, UCI's Pathway to Academic Success Project, the National Writing Project's

Our vision for the WRITE Center is that it will be more than something specifically geared toward doctoral students and researchers.

College, Career, and Community Writers Program, and Self-Regulated Strategy Development (Harris & Graham) to determine what academic writing strategies might benefit history students.

“The idea is to take what already works, the best of strategies, and morph them and use them as the basis for this history intervention,” Olson noted.

There are many methods that have proven effective in improving students’ writing skills in English language arts. One is a color-coding system to help students move beyond simple retelling to make a claim and support it with commentary. Another comes from Graham’s work on self-regulation: teaching kids to plan and goal set before writing.

Through her work, Olson and her team already have access to thousands of papers that they can begin analyzing. These include papers from the Norwalk La Mirada Unified School District, which Olson worked with previously during a four-year Investing in Innovation Pathway grant. The district, which is home to more than 5,000 students from four high schools, has once again partnered with Olson for the WRITE Center research.

In this initial year of the WRITE Center, Olson and the research team plan to survey all history teachers in the district for what she calls an exploratory phase. Teachers will share how much writing is being done in classes, what kind of writing, and how much training they undergo to develop writing, and then will submit additional samples.

From there, the Center will analyze the writing, design sample prompts, administer a collective writing exercise, and develop the intervention on source-based argument writing in history.

“Ultimately, our focus is on the thinking skills behind writing, and those kinds of cognitive strategies will transfer to other disciplines,” Olson said. “At a time when it is more crucial than ever for adolescents to develop the necessary critical thinking and writing skills to become informed citizens who actively interrogate the arguments they see presented in a wide range of print and digital texts, on a daily basis, we hope to contribute to the knowledge base regarding how best to cultivate these skills in secondary students and enhance their educational outcomes.”



The WRITE Center hosted a series of lectures this past summer: Jim Burke, Burlingame High School; Kelly Gallagher, Magnolia High School; and Carol Jago, associate director of the California Reading and Literature Project, UCLA all presented their new books at the UCI School of Education. More than 1,200 people watched the three lectures via Livestream. “These events featuring acclaimed authors who are also practicing classroom teachers is our first step in a long-term plan to integrate research and practice,” Olson said.

Please visit writecenter.org for information on our next Livestream, “Research-based Best Practices for Improving Secondary Writing Instruction,” featuring Prof. Steve Graham, Arizona State University.

Jim Burke, Burlingame High School, discusses his new book at a WRITE Center event in June.



Eryka Anderson, a third-year biological sciences major works in the Whiteson Lab. The lab studies human associate microbial and viral communities.

Branching Out: The **CAMP STEM** Program at UCI

The California Alliance for Minority Participation – a program in the School of Education’s Center for Educational Partnerships – provides programming, resources, and mentorship to increase underrepresented minority participation in STEM across disciplines.

The California Alliance for Minority Participation (CAMP) program at UCI is focused on ensuring students from underserved communities are provided with social and cultural capital to thrive in their STEM degree programs. With a particular focus on meaningful faculty engagement and successful academic habits of mind, students are encouraged to participate in undergraduate research, present at conferences, and participate in courses offered through CAMP to gain a stronger footing on their academic and professional journeys.

“For decades, CAMP has been a central fixture at UCI in its efforts to recruit and support a diverse population of STEM students,” says Derek Dunn-Rankin, CAMP faculty lead and Mechanical and Aerospace Engineering Department Chair. “It continues to demonstrate best practices for inclusion and success of its students.”

CAMP augments the social and cultural capital of its participants, partners with supportive departments on campus, and provides conference sponsorship to active members. It offers a portfolio of programs that span across education levels (see page 21) - from freshmen to transfers to doctoral students.

The program also hosts alumni roundtables, is working to include more structured academic mentoring, and is launching a series of workshops in the upcoming academic year. These workshops, *Career Hacking: The Basics*, are designed to provide juniors and seniors best practices associated with answering behavioral and technical questions during employment interviews, and to share hands-on experiences that focus on artificial intelligence, data science, and web development. The faculty advisor for the workshop series is Dr. Sergio Gago-Masague, director of the Engaging Technology and Application Design Lab (ETAD).

“CAMP connects you with students who share similar majors and ambitions – having these bonds early on is essential for long-term success in STEM and as an undergraduate,” said Michael Rodriguez. Rodriguez graduated from UCI in June 2018 with a double major in Aerospace and Mechanical Engineering. During his time at UCI, Rodriguez was a CAMP student worker, a Summer Science Research Scholar, and a resident advisor for the Summer Science Academy. He currently works at Gulfstream Aerospace as a weight and balance engineer.

“CAMP taught me how to approach challenges and instilled in me motivation to succeed. The program has leadership, research, service and networking opportunities for undergraduates to experience and add to their repertoire, all of which are necessary to succeed after graduation.”

CAMP has its finger on the pulse of industry needs, and helps show how students may prepare themselves for graduate school and/or industry. More than 700 UCI students have utilized CAMP resources since January 2018, according to Dr. Pheather Harris, director of CAMP.

“If we continue to enhance inclusive academic spaces for students from underrepresented populations in STEM, then we will have a positive impact on all students, regardless of their demographic background,” Harris said.

Nearly half the students who utilize CAMP resources are women, Harris noted. “It’s a big deal,” she said, “given the current paucity of women in STEM disciplines.

“Looking quantitatively at how our work supports underrepresented minority STEM persistence, which includes the ways in which our programs impact CAMP members’ overall academic experience,

positions us to become a national model for inclusion, retention and persistence efforts in STEM.”

This fits into one of the broader goals that Harris has for CAMP – to grow into an organization that not only offers resources and support to students, but contributes to research as well.

“I would like for CAMP to contribute to pervasive discourse related to the experience of students from underrepresented populations in STEM, and persistence efforts,” Harris said. “We are doing the work, but it is also important to discuss what we are doing in a way that will contribute to the national conversation around these efforts.”

This year CAMP boasts 14 Edison STEM Transfer Scholars, awarded to top students who have transferred to UCI from a community college and are a declared science major in Information & Computer Sciences, Engineering, Mathematics or Physical Sciences. Awardees must complete 25 hours of community service in a STEM related area and maintain a 3.0 GPA in order to have the

Jessica Herrera, a fourth-year biomedical engineering major, works at Driving Engineering & Life-science Translational Advances @ Irvine (DELTAi). The initiative seeks to understand the healing processes of cartilage, and augment those processes via sound application of tissue engineering principles.





Eric Tavarez, a second-year UCI student, works in the Gorodetsky Group. The group uses a multidisciplinary approach to design, synthesize and characterize biologically inspired materials for applications in unconventional electronic devices.

scholarship renewed their second year. Edison Scholars have gone on to serve as panelists at CAMP events, host CAMP events at Celebrate UCI, and serve as mentors and tutors in the CAMP program.

CAMP is one of the many programs in UCI's Center for Educational Partnerships (CFEP), which was integrated into the School of Education in 2018. The CFEP creates collaborations that support preparation for and success in higher education. CFEP programs support K-12 teacher and student development, transfer students, and UCI undergraduates.

"The Center for Educational Partnerships plays an integral role in the School of Education's mission to transform educational outcomes, improve social mobility, and help individuals achieve the American Dream," said Richard Arum, dean and professor of the School of Education. "CAMP carries out this ambitious charge, and it's impressive to see the students they've inspired and the careers that have launched."

The California Louis Stokes Alliance for Minority Participation in Science, Technology, Engineering, and Mathematics is a statewide initiative funded by the National Science Foundation, and is named after the honorable Louis Stokes, the first African American congressman elected in the state of Ohio and champion of education equity. CAMP was adopted on UCI's campus in 1991, and is also part of a statewide alliance.

CAMP partners with multiple units and departments at UCI, including: The Undergraduate Research and Opportunities Program; the Office of Access and Inclusion; Student Success Initiatives; the FRESH Basic Needs Hub; and the Disabilities Services Center, to ensure that students are provided with a web of support on campus.

CAMP produces the following programs, all of which are supported by funding from the National Science Foundation:



CAMP Summer Science Academy – A 10-week course designed for students currently engaged in undergraduate research with a faculty principal investigator. Students read literature on how to be a successful scientist or engineer, discuss experiences in a lab with other scholars, and write and present research.



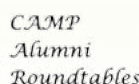
CAMP Summer Research Scholars - A 10-week course designed for continuing students currently engaged in undergraduate research with a faculty principal investigator. Students read literature about how to be a successful scientist or engineer, discuss their experiences in a lab with other scholars, write and present research, and build community.



Bridge to the Doctorate – Provides fellowship support to a cohort of 12 Louis Stokes Alliances for Minority Participation students for the first two years of their STEM graduate studies.



How to Be Successful in STEM – A seven-week course designed for freshmen, sophomores, and first-year transfer students. The course provides students with successful academic habits of mind, as well as information on how to meaningfully engage with faculty, how to write and present a research paper, and how to begin the journey of undergraduate research with a principal investigator.



CAMP Alumni Roundtables – Provides a space for alumni to have meaningful conversations with current students about how they may further position themselves to be competitive for graduate school and/or industry.

Reducing Child Poverty

Distinguished Professor Greg Duncan was tasked with identifying ways to reduce child poverty by 50 percent within 10 years. Can it be done?



In a 2015 bill, U.S. Congress directed the National Academies of Sciences, Engineering, and Medicine to conduct a comprehensive study of child poverty, and identify evidence-based programs and policies that would reduce the number of children living in poverty in the U.S. by half within 10 years.

The man asked to lead the committee: Distinguished Professor Greg Duncan, a member of the National Academy of Sciences and American Academy of Arts and Sciences, and a fellow of the American Academy of Political and Social Science. An economist by training, Duncan is recognized nationally and internationally for his research on poverty, economic mobility, and early childhood development.

"It was an easy thing to agree to," Duncan said. "Previous studies by my teams and others have reported correlations between poverty and brain structure and function in several neural regions that support language, memory, executive function, and socioemotional skills. We need to know about policies that will reduce child poverty."

Utilizing a microsimulation model from the Urban Institute in Washington, D.C., Duncan and the committee examined 10 program and policy options, including expanding child care subsidies, raising the federal minimum wage, expanding the Supplement Security Income program and introducing a universal child allowance. For each of the 10 options, two different variations were formulated, yielding 20 scenarios in all.

None of the 20 scenarios projected a 50 percent reduction in child poverty within the next 10 years.

Since none of the individual policy and program options met the goal, the committee developed four packages that combined different work-oriented and income support-oriented programs and policies (shown right.)

Two such packages meet the goal of reducing childhood poverty over the next 10 years, at an annual cost of \$90.7 and \$108.8 billion. Two other packages don't meet the 50 percent goal, but cost less and still reduce poverty substantially.

"You generally don't think about groups of policies taken together," Duncan said. "A work-related policy

like the Earned Income Tax Credit leads to more work, but has a relatively small impact on poverty, while an income support program like food stamps leads to less work, but reduces child poverty much more. If you combine the two, you get the best of both worlds – substantial poverty reduction and more employment.”

The study notes that while the two more expensive packages cost between \$90 and \$110 billion, the estimated annual macroeconomic cost of child poverty ranges between \$800 billion to \$1.1 trillion.

Components of the Four Packages and Their Estimated Costs and Impact on Poverty Reduction and Employment Change

	1 Work-oriented package	2 Work-based and universal support package	3 Means-tested supports and work package	4 Universal supports and work package
Work-oriented programs and policies				
Expand Earned Income Tax Credit	■	■	■	■
Expand Child Care Tax Credit	■	■	■	■
Increase the minimum wage	■			■
Roll out Work Advance	■			
Income support-oriented programs and policies				
Expand housing voucher program			■	
Expand SNAP benefits			■	
Begin a child allowance		■		■
Begin child support assurance				■
Eliminate 1996 immigration eligibility restrictions				■
Percent Reduction in the number of poor children	-18.8%	-35.6%	-50.7%	-52.3%
Percent Reduction in the number of children in deep poverty	-19.3%	-41.3%	-51.7%	-55.1%
Change in number of low-income workers	+1,003,000	+568,000	+404,000	+611,000
Annual cost, in billions	\$8.7	\$44.5	\$90.7	\$108.8



Distinguished Professor Greg Duncan delivers the committee's findings to The National Academies of Sciences, Engineering, and Medicine

The committee was very diverse ideologically, Duncan said. So much so that they couldn't agree on endorsing any one of the policies or policy packages. "It just wasn't possible," Duncan said. Instead, the committee was able to agree on advancing a set of evidence-based ideas that they believed were worthy of consideration by policymakers and the public.

"I was gratified that we were able to assemble a very diverse group of people and, despite their differing perspectives, coax them into agreeing on a variety of things," Duncan said. "A lot of debate over policy rests on beliefs and not evidence; the National Academy holds its committee to a high standard of evidence and everyone agreed to abide by that."

Since the public release of the study in February, Duncan and other committee members have delivered congressional briefings and given many other presentations on the report. It's now in the hands of policymakers and the public.

"All you can do as an academic is try to produce the best policy analysis you can for people to absorb and either act on or not," Duncan said. "The report is carefully written and thoroughly vetted, and provides a solid basis on which a fact-based policy discussion can take place.

"It would be gratifying to see campaigns considering these ideas."

Duncan began his career at the University of Michigan, where he worked on and eventually directed the Panel Study of Income Dynamics, the longest running longitudinal household survey in the world.

He is currently the principal investigator on a \$7.86 million study – funded in part by the National Institute of Child Health and Human Development (NICHD) – that distributes disparate amounts of monthly cash payments to mothers and their newborns with incomes below the federal poverty threshold. One group of mothers selected at random receives \$333 a month in cash payments for the first 40 months of the child's life, the other group receives \$20 a month.

The study, entering its third year out of five, will be the first to provide definite evidence on the causal linkages, or lack thereof, between income and children's cognitive development and health. Results will start to become available in about a year.

All you can do as an academic is try to produce the best policy analysis you can for people to absorb and either act on or not.

Duncan's interest has always been children's development and learning, and ways to make trajectories more positive, especially for kids with disadvantaged backgrounds. To do that, he says, you need to understand all kinds of environmental influences, including family, neighborhood and school circumstances.

It's an approach the UCI School of Education takes.

"Trying to address problems wrought by growing income inequality only within the classroom is an overly narrow framing of the problem," Duncan said.

"The goal for the UCI School of Education is explicitly framed in terms of lifelong development and learning."

“What Are You Doing After School?”

Professor Sandra Simpkins’s new grant, funded by the Templeton Foundation, studies how participating in afterschool activities can support character development.



It's easy to remember the afterschool activities one participated in - practicing a musical instrument for hours, running mile after mile during an exhaustive practice, or coming together with peers at a community program. It's during these activities in which many are imbued with skills such as teamwork, leadership, and managing one's emotions.

Millions of children flock to afterschool activities every day, and their social-emotional learning is shaped in ways it isn't in the classroom. Yet, the research and study of afterschool activities' effect on character development is nascent at best.

“Most of the policy discussions are focused on how afterschool activities can lead to better grades and test scores, which they can,” Simpkins said. “But where I think afterschool activities really have power is

in teaching life lessons and how to be a person of good character.”

These social-emotional skills are indispensable throughout life. A strong student, for example, is not simply a child who knows the material. A strong student shows up prepared and ready to learn, completes their work thoroughly and on time, is a team player, persists through challenges, and always puts forth their best effort, Simpkins explained. These skills are, of course, then transferable into the workplace.

With a new grant from the Templeton Foundation, Simpkins is poised to study the impact that participation in an afterschool activity has on five different areas of character development: work habits in school, cooperation with peers, prosocial behavior with peers, regulating one's emotions, and self-control.

The first phase of the study, currently underway, consists of Simpkins and her team – which includes Chancellor's Professor and Founding Dean Deborah Vandell and Distinguished Professor Jacquelynne Eccles – analyzing two vast and wide-reaching datasets. The data contains reports from participants in a variety of afterschool activities, as well as from their teachers, leaders and parents. How close does the participant feel to the leader? How long have they been attending? Do they feel as though they belong? How has the child's behavior changed?

One dataset tracks a child's progression from elementary to high school, while another looks at progression from elementary to early adulthood –



age 26. A wide range of activities are included – from sports to community programs, music lessons to school-organized academic clubs.

This initial phase will soon be completed. Simpkins believes the findings from this “wide net” will help influence the next steps of this line of work.

“We want to go in with large, longitudinal datasets to figure out what is most critical in children’s lives,” Simpkins said. “Once we observe what it is about leader behavior, the activity, the peer group, that helps promote positive outcomes – then we can figure out how to help further strengthen activities.”

Simpkins notes that, by and large, a majority of afterschool activity leaders are not formally trained – there isn’t a degree requirement, and most are serving as a leader on a part-time or voluntary basis in addition to a separate, full-time career.

“Training of the afterschool workforce is not nearly as strong as that for school teachers,” Simpkins said. “Yet the tutelage and behavior of an afterschool activity leader can have as much effect on a child’s development as a formally trained teacher can.”

The UCI School of Education is currently putting best practices into action to bridge this gap in workforce training.

The Certificate in Afterschool & Summer Education (CASE) Program at UCI, which Simpkins directs, is a first-of-its-kind program that trains and certifies UCI undergraduate students to administer K-12 afterschool activities. The program, which is open to all majors, requires 70 hours of volunteer fieldwork, and offers courses in human development, academic curricula, and expanded curricula such as arts, sports and educational technology.

Simpkins also serves as director of the UCI Chapter of UC Links, which focuses on creating mutually beneficial community-university partnerships in afterschool spaces that harness advances in research, teaching and practice.

“I love passing along my excitement about afterschool activities to our CASE students and seeing them interact with K-12 students in local schools,” Simpkins

Simpkins works with a group of students in an afterschool art class. Afterschool education can “provide an amazing opportunity for kids to develop and learn in ways they often don’t during the school day,” Simpkins said.

I love passing along my excitement about afterschool activities to our CASE students and seeing them interact with K-12 students in local schools.

said. “Afterschool education, when administered by people who truly care, provides an amazing opportunity for kids to develop and learn in ways they often don’t during the school day.”

Simpkins – who earned her Ph.D. in Developmental Psychology from UC Riverside - joined UCI from Arizona State University in 2015. Her research focuses on children’s positive development - particularly how families and afterschool activities influence youth and how those processes vary by social class, ethnicity and race, and immigration status. UCI is “the place to be” to study afterschool education, Simpkins said. “The School of Education realizes that learning doesn’t just happen in the classroom, but in other settings such as organized activities.

“Studying character and overall social-emotional learning – it’s important not just because it leads to higher grades or increased graduation rates, but because we want tomorrow’s youth to be caring parents, hardworking employees, considerate neighbors, and conscientious citizens,” Simpkins said. “If you look at the conceptual map of the UCI School of Education, afterschool activities are at the center. It’s a goal, not just an acknowledgement, of the school to think of the whole child and consider all the places children learn and develop.”

Simpkins is studying the effect afterschool activities have on character development. Everything from sports to community programs, music to school-organized clubs is being considered.



The Science Behind the Math

Associate Professor Lindsey Richland studies cognitive function and pressure to perform as it relates to higher-order thinking and learning, particularly in mathematics.



Mathematics is often considered a source of stress, full of memorization and low expectations for negatively stereotyped groups. What if there was a way, however, to reduce this stress and shift the rhetoric about mathematics from rote memorization to opportunities for creativity and higher order thinking?

Associate Professor Lindsey Richland is researching such potential ways through grants funded by the Institute of Education Sciences (IES) and the Spencer Foundation. Richland and her team are studying learning with hundreds of diverse fifth- and sixth-grade students, testing pedagogical practices with low implementation costs. The aim is to shift mathematics teaching to allow for creative problem solving, and to support teachers in holding effective discussions.

Her team is also conducting experiments that provide social incentives - which in effect manipulates pressure to perform - and testing strategies for understanding and reducing disparities in learning related to feelings of pressure.

“One thing that can happen when you’re feeling pressure, is your brain, and specifically your working memory, becomes overwhelmed with verbal thoughts and can start to perseverate. You think about not messing up and you think about needing to do well,” Richland explained. “Those thoughts take up the same linguistic resource space in your brain that should be focused on working out the problem – it interferes with the learning process.”

Richland is the director of the UCI Science of Learning Lab, a collaborative research team that explores the development of human thinking and learning. Her research focuses on the relationships among and between children’s executive function, reasoning skills, and mathematics teaching and learning.

Through a collaborative project between the Science of Learning Lab and the University of Chicago, Richland is part of a longitudinal study that follows 64 typically developing children representative of Chicago’s diversity, along with 40 children with perinatal brain injury, from age 14 months to their junior and senior years of high school.

In addition to the school setting, Richland is paying close attention to home variables, which can include socioeconomic status, parental education, languages spoken in home, and how parents communicate

with their children. This includes videotapes of the home to capture spontaneous, everyday early language environments.

With more than 1,600 hours of video data and 1.5 million utterances transcribed, the project provides a unique insight into the character and variability of children's home language experiences. Richland is particularly interested in the ways parents socialize their children's thinking skills and routines, and her team has generated reliable codes for capturing patterns in parent and children's higher order thinking talk, which predicts their later math, science and general reasoning skills.

"There are school studies that talk about learning and not the home, and home studies that don't go into a lot of depth about the classroom, so large-scale datasets that integrate the two remain the missing piece," Richland said. "But, we're working on ways to pull home and school data together, and develop teaching strategies that best build strategically on children's home language contexts."

Richland has been awarded a new grant from the IES to continue studying the same 64 students - who have now moved around the country - into college or the workforce to better understand the long-term

relationships between home and school linguistic contexts. She has also paired this with proposed experiments to causally test the role of higher-order thinking talk in shaping children's tendencies to think deeply in mathematics.

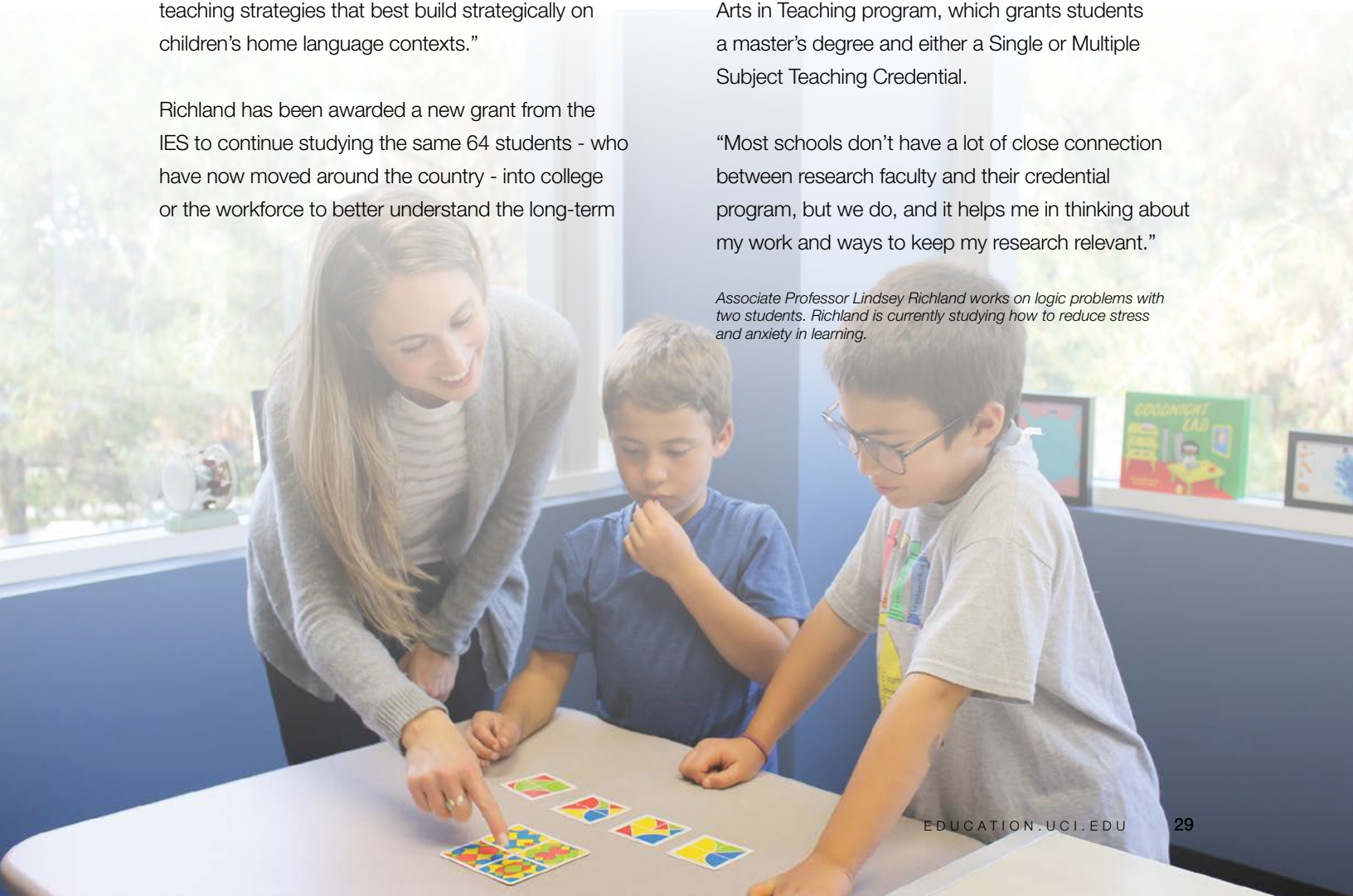
"This research is already really rich, with lots of home video data and annual tests of math, science and reading," Richland said. "Our aim is to develop an understanding of school and home over the even longer term, and see how different factors in children's early and continuing home environments relate to how they transition into higher education and employment."

Richland joined UCI in 2018 from the University of Chicago. She finds the UCI School of Education to be collaborative, collegial and an interdisciplinary powerhouse, with colleagues eager to help out and jump in on new projects.

She also enjoys teaching in the school's Master of Arts in Teaching program, which grants students a master's degree and either a Single or Multiple Subject Teaching Credential.

"Most schools don't have a lot of close connection between research faculty and their credential program, but we do, and it helps me in thinking about my work and ways to keep my research relevant."

Associate Professor Lindsey Richland works on logic problems with two students. Richland is currently studying how to reduce stress and anxiety in learning.



The Market Manipulator

Looking to improve academic and labor market outcomes for underrepresented students, Di Xu studies online learning, community colleges, instructor productivity and more.



UCI awarded Xu the 2018-19 Distinguished Assistant Professor Award for Research. The award is conferred by the Senate on a faculty member who has made significant contributions to scholarship through sustained, distinguished research. Here Xu speaks at the annual Faculty Senate Awards Event.

Whether a single course, or a degree program thousands of miles away, online learning was once thought to be a way to address equity gaps and provide better access to education for underrepresented students.

According to Associate Professor Di Xu, it hasn't fulfilled that promise.

"There are consistent performance gaps between online learning and traditional face-to-face learning, and the performance gap is substantially larger for underrepresented groups," Xu said.

Through a National Science Foundation (NSF) CAREER grant, Xu is researching effective strategies

to enhance supports and services to improve online learning among community college students. In this grant, Xu is fielding a survey to community college instructors in Virginia and North Carolina to collect information on their practices, relationships with students, and perceptions of online learning. Then, Xu will implement a series of random control trials.

"We're going to identify a few practices that are consistently mentioned by effective teachers as important ways to engage students in online learning, but we then need a rigorous way to assess if something, implemented properly, could indeed influence student outcomes," Xu said. "There is literally no empirical work that examines, in a rigorous way, the impacts of distance learning on student outcomes at community colleges."

Xu is also interested in how to better support students in online learning at four-year institutions. She's working with Professor Mark Warschauer on the NSF-funded grant, "Investigating Virtual Learning Environments," to identify such potential strategies.

Online learning is just one way in which Xu studies how different student backgrounds and pathways lead to different attainments and eventual labor market outcomes.

In 2018, Xu was awarded a prestigious National Academy of Education/Spencer Postdoctoral Fellowship. She is one of four School of Education professors to receive the fellowship in the last two years, the highest number awarded to any school of education in the nation.

Her research for the fellowship is looking at the effects college instructors have on student outcomes.

“There are consistent performance gaps between online learning and traditional face-to-face learning, and the performance gap is substantially larger for underrepresented groups.”

“In K-12 literature, there’s a strong strand of research on teachers, what makes good teachers, and what impact they have on students,” Xu explained.

One takeaway from the research thus far, Xu described, is that students who take their introductory courses with adjunct faculty – especially adjuncts hired through short-term, part-time positions – are less likely to take additional classes in the field, and their performance is lower in the subsequent coursework in the same field.

“This deserves additional research because the head count of adjunct professors already outnumbers that of tenured faculty at many public universities, especially open-access institutions,” Xu said.

In February, Xu partnered with the Community College Research Center and the Aspen Institute’s College Excellence Program to examine access to and impacts of different college acceleration strategies on students’ college-going, college transition and

college completion. The project also aims to identify institutional structures, policies and practices that improve students’ progress and learning experiences in these courses, as well as high school completion, college-going and college completion for low-income students and students of color who take them.

Xu has also written on the economic benefits of certificates (non-degree awards) on the labor market, and how community colleges influence students’ degree attainment and short-term labor market performance. Xu is currently studying the transfer mechanism of community colleges, and what she calls the “big gap” between expectations and reality.

Xu attended Peking University in China and the University of Cambridge before earning a Ph.D. from Teachers College at Columbia University. While working on a Gates Foundation-funded grant at Columbia, Xu began interacting with online students and learning about their backgrounds and goals. It was there, she said, that her passion began to build.

“Many online students I interacted with were adult learners, single moms, and others who were taking the classes in the hopes that they can catch up, find a better job, and better support their family,” Xu said. “Those personal stories were very touching, and I realized at that moment that it would be fantastic if my research could do anything to help this group.”

Xu works with doctoral students in her Community Colleges Online Project. The project seeks ways to improve the effectiveness of distance learning at community colleges through state partnerships.

Here to Transform

A NAEd/Spencer Fellow and winner of the Palmer O. Johnson Memorial Award, Assistant Professor Shanyce Campbell wants to transform educational policies and practices.



While conducting recent research, Assistant Professor Shanyce Campbell found that outside observers of teacher performance are not always impartial. While this may be unsurprising, Campbell's discovery of how the observers were biased has garnered considerable attention.

According to the study, not only did certain socio-demographics of teachers receive lower ratings, but teachers were also rated lower based on the race, gender and test performance of the students in their class.

The published study - which won the American Educational Research Association (AERA) Palmer O. Johnson Memorial Award for the most outstanding article appearing in an AERA-sponsored journal -

analyzed data from the Measures of Effective Teaching (MET) Project. Campbell and Matthew Ronfeldt - her co-author and associate professor at the University of Michigan - found that teachers with larger proportions of black, Latinx, boys, low-performing, and in some cases, low-income students in their classrooms get significantly lower observation ratings than those with a small proportion, even after accounting for differences in teacher quality and the self-selection of teachers into schools.

Additionally, Campbell's research found that men receive lower ratings, on average, than women. Consistent with prior research, Campbell found that black teachers are rated lower than white teachers. All in all, outside observer ratings seem to be measuring factors outside of a teacher's performance or his or her control.

"If states are going to use these evaluation systems, especially for high-stakes matters such as retention, then we need to think of the unintended consequences, and we might need to adjust for teacher and student characteristics," Campbell said.

Earlier this year, Campbell also earned a prestigious National Academy of Education/Spencer Postdoctoral Fellowship, which is given annually to 30 early career scholars to support proposals that make significant scholarly contributions to the field of education. Campbell is one of four UCI School of Education faculty to be awarded the fellowship in the past two years, the highest number awarded to any school of education in the nation.

Campbell's Spencer Fellowship project will look at teacher education programs' role in fostering teacher

candidates' equity dispositions. Findings from the study will provide greater insight into how educators and policymakers can create conditions that foster and sustain candidates' equity-orientations once they become in-service teachers.

"When a teacher enters the classroom, what do they decide to prioritize and focus on, and does their equity disposition get lost?" Campbell asked. "If so, what makes them lose it? Is it job pressure, school structure, or something else entirely?"

The focus on teachers and instructional quality is just one strand of Campbell's larger research agenda, which seeks to understand how policies and practices advance the educational opportunities for students who are marginalized by the education system. Other strands of her research include racialized tracking practices and its impact on long-term mobility, and the role of school-community partnerships in providing access to opportunities for the success of students of color.

Campbell earned her Ph.D. in Public Policy in 2014 from the University of North Carolina at Chapel Hill, where she was acknowledged as the first black graduate from the program since its inception in 1990. Her scholarship around access to educational opportunities is a byproduct of her lived experiences growing up in Kansas City, Kansas.

"If I didn't have what I call othermothers and fathers lifting me up, encouraging me to do different

afterschool programs, and just giving me access and opportunities to thrive, then I wouldn't be in the space I am now."

Her college experience attending North Carolina A&T State University, a Historically Black College and University, was also filled with love and support from mentors, she said. Campbell began her career out of undergraduate as a tax accountant at Deloitte, one of the "Big Four" accounting firms, in Chicago. While she enjoyed the work, it didn't provide as many opportunities to serve the community as she desired - "I'm a servant at heart," she said.

This feeling propelled her into graduate school, where she then carved out a career path dedicated to service and transformation.

"I'm committed to transformation, and that's different than just changing something," Campbell explained. "You can tweak something and make a change, but the perpetuation of oppression broadly can still exist. To transform something means you disrupt it so it can't exist anymore."

"I'm here to transform."

Campbell works with a student on research focused on racial and gendered bias in higher education.



» NEW FACULTY



Shayan Doroudi

Assistant Professor

Shayan Doroudi joins the School of Education from Carnegie Mellon University's Computer Science Department. Dr. Doroudi's research is focused on the learning sciences, educational technology and the educational data sciences. He is particularly interested in studying the prospects and limitations of data-driven algorithms in learning technologies, including lessons that can be drawn from the rich history of educational technology. Prior to joining the School of Education, he was an associate in Carnegie Mellon's Program in Interdisciplinary Education Research. Doroudi earned his B.S. in Computer Science from the California Institute of Technology, and his M.S. and Ph.D. in Computer Science from Carnegie Mellon.



Nia Dowell

Assistant Professor

Nia Dowell comes to the School of Education from the University of Michigan's School of Information. Dr. Dowell's interests are in cognitive psychology, discourse processing, group interaction and learning analytics. Her research focuses on using language and discourse to uncover the dynamics of socially significant, cognitive and affective processes. Her research extends beyond educational and learning sciences spaces and has highlighted the practical applications of computational discourse science in the clinical, political and social sciences areas. Dowell earned a B.A. in Psychology from the University of Memphis, and a Ph.D. in Cognitive Psychology with a Cognitive Science Certificate from The University of Memphis & Institute for Intelligent Systems.



Katherine Rhodes

Assistant Professor

(will start in January 2020)

Katherine Rhodes will join the School of Education in 2020 from the Ohio State University. Dr. Rhodes is a National Institutes of Health-sponsored Postdoctoral Research Fellow in Ohio State's Learning Disabilities Innovation Hub. Her research explores the relations between children's language, executive functioning and mathematics achievement. In particular, Rhodes focuses on evaluating issues of theoretical and testing bias for students who are cultural and linguistic minorities in the United States. Rhodes earned her B.A. in Chemistry from Agnes Scott College; and her M.A. and Ph.D. in Developmental Psychology from Georgia State University.



Fernando Rodriguez

Assistant Teaching Professor

Previously a postdoctoral scholar in the School of Education's Digital Learning Lab, Fernando Rodriguez now continues at the school as an assistant teaching professor. Dr. Rodriguez utilizes theories of learning and development to understand and improve how students learn information and reason about the world. One area of his work involves using cognitive theories of learning to understand how students study, and whether using effective study strategies promotes learning in STEM courses. Rodriguez earned his B.A. in Psychology from California State University, Northridge; an M.S. in Developmental Psychology from the University of Michigan; and his Ph.D. in Educational Psychology from the University of Michigan.



Adriana Villavicencio

Assistant Professor

Adriana Villavicencio joins the School of Education from the New York University Steinhardt School of Culture, Education and Human Development. There, Dr. Villavicencio served as deputy director at the Research Alliance for New York City Schools, and as a research assistant professor. She brings to the School of Education experience in research-practice partnerships, mixed-methods research studies, and program evaluation. Villavicencio earned a B.A. in English from Columbia University; an M.A. in English Education from Teachers College, Columbia University; and a Ph.D. in Education Leadership and Policy from NYU Steinhardt.

By the Numbers

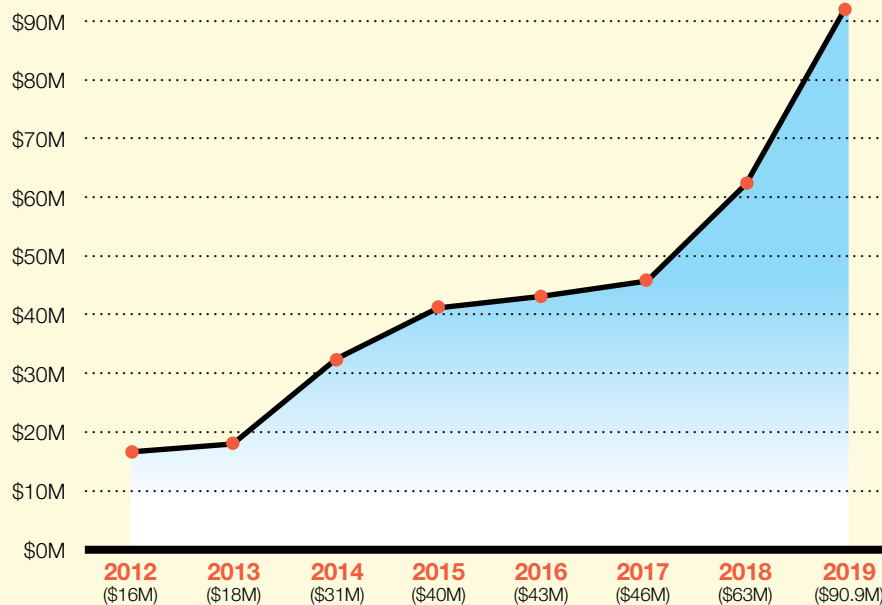
\$36.3M

Grant money awarded last fiscal year to our faculty*

\$1M+

Grant money awarded last fiscal year, per faculty member*

RISE IN FUNDED RESEARCH BY YEAR



4

NAEd/Spencer Postdoctoral Fellowships awarded to our faculty, past two years – highest number awarded to any school

4

Members of the National Academy of Education

2

Active NSF Early Career grants

11

Active grants from the Institute of Education Sciences

16

Active grants from the National Science Foundation

5

Active grants from the U.S. Department of Education

11

Active grants from the National Institutes of Health

**Money awarded between July 1, 2018 and June 30, 2019
All data as of June 2019*

RECENT GRANTS

- **Carol Booth Olson**
U.S. Department of Education: *The Pathway to Academic Success: A Cognitive Strategies Approach to Text-based Analytical Writing to Improve Academic Outcomes for Secondary English Learners*

\$14.73M

- **Greg Duncan**
National Institute of Child Health and Human Development: *Household Income and Child Development in the First Three Years of Life*

\$7.86M

- **Stephanie Reyes-Tuccio**
U.S. Department of Education: *Compton Partnership GEAR UP*

\$5.44M

- **Jacquelynne Eccles**
Institute of Education Sciences: *It's Worth It! Securing Persistence, Performance and Progress within Postsecondary Gateway Science Courses through Utility Value Interventions*

\$2.74M

- **Elizabeth van Es**
U.S. Department of Education: *UCI Teacher Preparation Expansion and Enhancement for Developing Effective and Equity-focused Educators*

\$2.65M

- **Mark Warschauer**
National Science Foundation: *Investigating Virtual Learning Environments*

\$2.5M

- **Carol Connor**
Institute of Education Sciences: *Optimizing Learning Opportunities for Students' Early Learning Observation System*

\$1.99M

- **Richard Arum**
Andrew W. Mellon Foundation: *Next Generation Undergraduate Success Measurement Project.*

\$1.12M

FAST FACTS



29

Doctoral Students in 2019-20 entering cohort, **most all-time**

10,000+

Alumni worldwide

498

Collaborating partner schools, districts and colleges

7

Doctoral Students awarded Fellowships by **NSF Graduate Research Fellowship Program**

No.1

Best Colleges in America – Money Magazine

No. 1

UCI rank of Universities doing the most for the **American Dream – The New York Times College Access Index**

No. 13

Public School of Education in the nation – **U.S. News & World Report**

Leading the Way

Jessica Tunney, the 2019 Lauds and Laurels Distinguished Alumna from the UCI School of Education, is an innovative school leader and passionate advocate for authentic, hands-on learning and inclusive instructional practices in schools.



Jessica Tunney and School of Education Dean Richard Arum at the 2019 Lauds & Laurels reception.

A lifelong learner, teacher and teacher educator, Jessica Tunney is dedicated to making sure schools offer rich and rigorous learning opportunities to all students, including students with special needs and those from historically underserved communities.

With this fully inclusive vision of education in mind, Dr. Tunney in 2018 founded TLC Public Charter School in Orange. TLC is unlike any other school in

Orange County, with classrooms that bring together gifted students, culturally and linguistically diverse students, students who develop typically, and students with special needs for lessons and learning activities that have been thoughtfully differentiated and universally designed by teams of co-teachers to be accessible to all.

The school's innovative curriculum also emphasizes critical thinking, communication, collaboration, and

creativity through the integration of enrichment programs in art, music, dance, gardening, and technology to prepare the next generation of students for an increasingly complex and connected world. TLC is already demonstrating the local demand for an inclusive educational option for families. The school opened last year with just 55 students (TK - 4th grade), and will be home to 125 students in the upcoming school year, with plans to expand through grade 5.

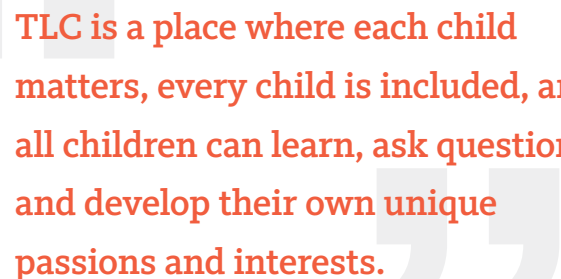
“TLC is a place where each child matters, every child is included, and all children can learn, ask questions, and develop their own unique passions and interests,” said Tunney, who serves as TLC’s founding executive director and principal. “TLC was created not only as a site to model established research- and evidence-based strategies for inclusive education, but also as a space for innovation, research, and the development of new approaches to teaching and learning in diverse settings. TLC is a learning organization rooted in the local OC community and committed to movement towards a more just, equitable and inclusive world.”

After earning a bachelor’s degree in Anthropology from Cornell University and a master’s degree in Special Education from Bank Street College of Education in New York City, Tunney began teaching elementary grades K-5 and was an early literacy specialist in Brooklyn, New York. Combining her practical expertise in teaching with her knowledge and interest in theories of learning, Tunney began facilitating professional learning for practicing teachers in New York City on topics of integrated curriculum design, neurodiversity in learning, and differentiated instruction.

Tunney moved to California in 2005, and began working as a fourth-grade teacher at the nationally acclaimed inclusive model CHIME Charter School in Los Angeles. She entered the UCI School of Education’s doctoral program in 2010, shortly after

relocating to Orange County, and focused her research on teacher preparation and professional development to promote educational improvement and change. In 2016, she obtained a Ph.D. in Education, with a specialization in Learning, Cognition, and Development.

“Pursuing a doctoral degree at the UCI School of Education enabled me to deeply investigate longstanding questions I carried throughout my career in education,” Tunney said. “I was curious to understand more about learners and learning, teachers and teaching, and the ways schools can be organized to support students in cultivating their own goals and interests as independent thinkers.”



TLC is a place where each child matters, every child is included, and all children can learn, ask questions, and develop their own unique passions and interests.

The Lauds & Laurels Distinguished Alumni Award is given to UCI alumni whose personal or professional achievements bring honor and distinction to a particular school or discipline, the university, or the UCI Alumni Association. The 2019 event was the 49th annual ceremony.

“With the skills and deep understanding of both research and theory I developed through my studies at UCI, I have been able to bring the promises and vision of inclusive education to life in practice with clear focus and intent. The result has been the launch of TLC as Orange County’s first fully inclusive public-school option that is also a site of innovation, continued professional growth, and joyful learning for everyone involved.”

Announcing the School of Education Alumni Chapter

This past spring, the School of Education established an Alumni Chapter, which will provide School of Education alumni and community members the opportunity to meet and reconnect with fellow Anteaters, develop diverse programming, and inspire and support current School of Education students.

There are more than 10,000 School of Education alumni! Now is a chance for them to have a home.

“For decades, the UCI School of Education has been a leading institution for aspiring and current teachers to develop their critical skills and, in turn, impart their knowledge throughout the community,” said Richard Arum, dean and professor at the School of Education. “With this alumni chapter, our alumni and community have a chance to further collaborate and improve the science of education in Orange County and across the world.”

The School of Education Alumni Chapter is open to all alumni, as well as local educators who have attended UCI professional development programs in education. Members represent professions including teachers, counselors, researchers, public policy advocates and youth nonprofit leaders.

“Launching our new School of Education Alumni Chapter benefits everyone involved,” said Dr. Frank Olmos, one of the inaugural Alumni Chapter board members. “It will serve as a conduit for connecting with our world-class university, talented graduates and prominent supporters of our school to partake in mentorship, professional growth and philanthropic activities.

“By joining our board, I am able to pay forward the tremendous amount of support and encouragement I received while attending UCI.”



To sign up for the School of Education Alumni Chapter, open your phone's camera app and position the adjacent QR code in the middle of your screen to be directed to an online sign-up sheet.

Below are the inaugural School of Education Alumni Chapter board members. We thank them for their contributions to helping build the Chapter.

For more information, or to get involved in the Alumni Chapter, please email:
education-communications@uci.edu



Katherine Bihr

Katherine Bihr, Ed.D., is the vice president of programs and education for TGR Foundation, a Tiger Woods Charity, providing direction to the personnel, programs and operations of the TGR Learning Lab and the Earl Woods Scholar Program. Prior to joining TGR Foundation, Dr. Bihr was principal of Vista View Middle School in Fountain Valley. Bihr is the 2019 Chair of the STEM Funders Network, a national organization providing resources and professional learning to help teachers, parents and out-of-school providers better inspire and prepare youth in STEM.

**Carolyn Brothers**

Carolyn Brothers is a facilitator/trainer for the Osher Lifelong Learning Institute at UCI. She has taught in the San Jacinto and Garden Grove Unified School Districts and at Coastline College and Chapman University. She is one of the founders of the Resource Library for the Boys & Girls Club in Garden Grove.

Ms. Brothers graduated from UCI in 1978 with a degree in psychology and later received two teaching credentials from UCI.

**Tracy Carmichael**

Tracy Carmichael, Ph.D., is president and chief strategy officer for Project Hope Alliance, which serves kids and youth experiencing homelessness within the public school system. She previously worked for 10 years as an executive officer with Think Together, a statewide educational organization. Dr. Carmichael is skilled

in nonprofit management, research design, program evaluation, fund development, and public speaking. She holds a B.A. in Criminology from UCI, an M.A. in Educational Research from the University of Michigan, and a Ph.D. in Education from UCI (2013).

**Wen-Li Jen**

Wen-Li Jen, Ed.D., is chief executive officer of Integral Prudence Solutions. Dr. Jen has 20 years of consulting experience in leadership, strategic planning, cultural competency and program development with more than 10 years of experience directing prevention programs: child abuse, substance abuse and gang

prevention. She also works with mental health and community health initiatives. Jen earned her Administrative Credentials; her Multiple Subjects Teaching Credential with CLAD; and a B.A. in Social Science with a specialization in Public and Community Service, minor in Educational Studies from UCI.

**Blaine Jones**

Blaine Jones teaches Earth Science, AP Environmental Science, and Digital Photography, and serves as the varsity boys golf coach at the Samueli Academy Charter High School in Santa Ana, where he was also a founding teacher. Before a career change to education, Mr. Jones worked as a senior hydrologist

in water resources engineering, focusing on the modeling of large-scale flooding disasters. Jones holds a B.S. in Ecology from Emory University, an M.S. in Physical Geography from the University of Southern California, and earned his teaching credential from UCI in 2013.

**Jenel Lao**

Jenel Lao, Ed.D. is the coordinator for data strategy and program development in the Fullerton School District. There, she is responsible for supporting school improvement efforts by expanding student access to high-impact and innovative programs through the strategic use of data, grant writing and partnership

engagement. Previously, Dr. Lao served as the School of Education's director of undergraduate programs for the Education Sciences major. She also currently serves as a lecturer for the School of Education. She holds a B.A. in Political Science from UC Davis, a teaching credential and M.Ed from UCLA, and became a proud Anteater when she earned an Ed.D in Educational Administration from UCI in 2001.

**Mary Roosevelt**

Mary Roosevelt, formerly program coordinator for the Multiple Subject Credential Program and director of external relations for the UCI Department of Education, received the UCI Medal in 1990. She also previously served as ambassador and board member of the UCI Foundation. She is a trustee of the

Ecolint American Foundation, President Emeritus of the University of California Research Associates, and a Friend and Honorary Fellow of Griffith University in Queensland, Australia. Mrs. Roosevelt was principal of the Junior House at the United Nations International School in New York and also taught at the International School of Geneva in Switzerland, where she created the first draft of what is now the Elementary Curriculum for the International Baccalaureate.

**Frank Olmos**

Frank Olmos, Ed.D., is senior human resources analyst for the Los Angeles County Office of Education and adjunct professor at the Charter College of Education, California State University, Los Angeles. His background includes working with the Montebello Unified School District and for the City of Maywood.

Dr. Olmos holds a B.A. in Political Science from UCLA, an M.S. in Public Administration from California State University, Los Angeles, and an Ed.D. in Educational Administration and Leadership from UCI (2010).

**Jeff Johnston** (Faculty Advisor)

Jeff Johnston is a much-beloved lecturer in the UCI School of Education. He holds an M.S. in Sports Administration from the University of Illinois, Urbana-Champaign and an M.A. in Social and Religious Studies from the University of Southern California. His educational foci include ethics and

education, principles and practices of coaching, afterschool sports and fitness, and health education for teachers. In 2015, Mr. Johnston was honored as UCI Lecturer of the Year during UCI's Annual Celebration of Teaching.

» CLASS NOTES



Melissa Brennan '06

Multiple Subject Teaching Credential

Teacher, Mattie Lou Maxwell Elementary School

Orange County Department of Education Superintendent Dr. Al Mijares surprised Melissa Brennan in her classroom this spring, recognizing her as a 2020 Orange County Teacher of the Year. In receiving the award, Brennan was credited as an outstanding classroom teacher who demonstrates a superior capacity to inspire a love of learning in students of all backgrounds and abilities. She was one of six teachers honored out of an Orange County teaching population of more than 21,000. Brennan has been teaching in the Magnolia School District since receiving her degree. She has spent the last five years as a Transitional Kindergarten through 1st Grade Special Day Class teacher at Mattie Lou Maxwell Elementary School.

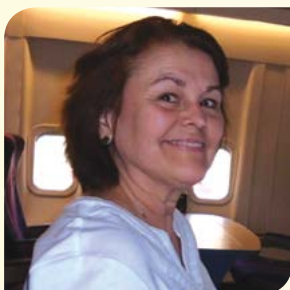


Sara Gilliland '15

Ph.D., Education

Assistant Professor, Chapman University

Sara Gilliland holds a Ph.D. in Education from UCI, a doctorate in Physical Therapy from Chapman University, and a B.A. in Human Performance and Health Sciences from Rice University. While pursuing her Ph.D., Dr. Gilliland decided she needed a relaxing activity to counterbalance her studies, so she began diving. Consistent with her dedication to academic excellence, Gilliland proceeded to win national masters age group titles on 1-meter and 3-meter spring-board as well as the 1-meter and 3-meter springboard events at the 2018 Pan American Masters Championships. As a new professor at Chapman University, she garnered the 2017-18 Scholarly/Creative Activity Award.



Susan Groff '84

UCI Teaching Credential

Teacher, Middle College High School

This past summer, the Ocean Exploration Trust selected Groff to spend 17 days as a Science Communication Fellow exploring hydrothermal vents with NASA SUBSEA scientists aboard the Nautilus. It was another opportunity to deepen her training and experience for the benefit of her students at Middle College High School in Santa Ana. Previously, Groff served as a Teacher for Global Classroom Fellow in the Philippines, took multiple flights aboard NASA SOFIA, taught with Partners for the Americas Panama Teaching Match, unearthed dinosaur bones, and organized Orange County's first annual Brain Bee. In 2013, the Carlson Family Foundation recognized Groff as an Outstanding Teacher of America.



Ann Kaganoff

Educational Therapist

Ann Kaganoff worked in the UCI Department of Education from 1985-92, filling many roles – instructor for K-8 Reading Methods, supervisor of student teachers, founder and director of the UCI Reading and Neurolinguistic Clinic, and assistant director for admissions and placement. An active member of the education community for more than 60 years, Dr. Kaganoff maintains a private practice in Orange County as an educational therapist. Kaganoff also continues to publish - most recently *Best Practices in Educational Therapy* [Routledge, 2019] – present at conferences, and serve as a mentor to educational therapists in training.

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Hansol Lee '18

Ph.D., Education

Associate Professor, Korea Military Academy

Hansol Lee was promoted to associate professor at Seoul's Korea Military Academy, the equivalent to the United States Military Academy at West Point. As a Republic of Korea Army major, Dr. Lee is teaching academic and military English and conducting military-related research. An applied linguist, Lee also is involved in language-related policies, programs, and projects in and outside the Korean military. Lee credits his rapid promotion from assistant to associate professor to his academic achievement during his doctoral study, which includes eight publications in high impact journals, including *Child Development*, *English Teaching: Practice and Critique*, and *Language Learning & Technology*.

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Steve (Gerald) Marin '18

B.A., Education Sciences

Recreational Services Leader, Los Angeles County Parks Department

Marin earned his B.A. in Education Sciences with specializations in Afterschool Learning and Development, and Children's Learning and Development. He currently plans and produces engaging afterschool activities at his site and summer activities at 18 other Los Angeles County Parks. Marin is especially proud of his contribution to the ESTEAM summer camp program, where he created the ESTEAM MakerSpace Cart. There, campers can express their creativity while pursuing activities focused on the environment, science, technology, engineering, arts, and mathematics. He is also proud of his contribution in creating the first Innovation Lab for Los Angeles County Parks & Recreation. Participants are able to become innovators and partake in classes that will give them the skills and experience to be better prepared for the workforce.



Tina Matuchniak '13

Ph.D., Education

Assistant Professor, California State University, Long Beach

This fall, Tina Matuchniak was appointed assistant professor in the Department of English and named campus writing director at California State University, Long Beach. After obtaining her Ph.D., Dr. Matuchniak served as director of research for the UCI Writing Project and as a lecturer at CSU Long Beach. Her research focuses on language and literacy, specifically as they apply to the needs and practices of English learners. In addition to her doctorate, Matuchniak holds a B.A. in Chemistry from the University of Bombay, India, and an M.A. in Literacy Studies from CSU Long Beach.

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Teya Rutherford '14

Ph.D., Education

Assistant Professor of Learning Sciences, University of Delaware

This year, the National Science Foundation awarded Teya Rutherford an Early Faculty CAREER grant, one of the NSF's most prestigious awards given to early-career faculty across all disciplines. Dr. Rutherford will study how student motivation is associated with choice at a micro level and how digital educational platforms can improve motivation and choice to result in greater student learning. She is especially interested in examining how motivation functions to support students' in-the-moment choices during learning. Rutherford plans to collect data from more than 30,000 third- through fifth-grade students each year over the course of the 5-year grant.

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Dave Schrenzel '17

Master of Arts in Teaching

Mathematics Teacher, Plaza Vista School

In May, the Irvine Unified School District recognized Dave Schrenzel as a "Teacher of Promise." This honor – bestowed upon one high school and middle school teacher, and two elementary school teachers - is given to first- or second-year instructors who go above and beyond, while demonstrating professional curiosity and an unbridled enthusiasm for teaching. Wanting to make a difference in children's lives, Schrenzel left a career in consulting and market research to pursue his MAT at the School of Education. Now, as a much-admired mathematics teacher, Schrenzel is committed to enriching young minds and inspiring their intellectual curiosity.

► To submit alumni updates for future publications, please email education-communications@uci.edu



A Message from Sandi Jackson

The field of education is on the brink of an exciting new era fueled by data-driven, technological breakthroughs that are transforming both the ways we teach and how students learn. Our faculty, students, and alumni are dedicated to redefining 21st century education through rigorous research, model academic programs, teacher professional development and partnerships with local schools.

In California, high-quality public education is a proven pathway to opportunity and social mobility. As the No.1 university doing the most for the American dream, UCI's student body looks like few others and their diverse perspectives form a unique foundation for every aspect of teaching and discovery.

By joining together university researchers, practicing educators, business leaders and philanthropists, we have an opportunity to position Orange County as a national model for 21st century education. We must rally behind the UCI effort by supporting research, sponsoring school partnerships, endowing scholarships for promising teachers and promoting international collaboration.

With your help, we will begin the next chapter in the life of an education school with unparalleled opportunity to effect change in Orange County and beyond.

Sandi Jackson, ex-officio Trustee, UCI Foundation
Chair, School of Education Campaign Advisors
Co-Founder Samueli Academy

OCEAN Donors:

Bill and Pat Podlich

For decades, William F. Podlich, the former PIMCO CEO and current UCI Trustee has sought ways to support schools and improve educational outcomes. He's found a perfect match in OCEAN.



Bill and Pat Podlich. The couple funds three partnerships in the OCEAN network. For more information on OCEAN, see page 10.

William F. Podlich was instantly drawn to OCEAN because of its unique, cooperative structure that improves school performance and creates opportunities for underrepresented students to achieve their American Dream.

"I've been trying for more than 20 years to find things that I think will improve the performance of public schools," Podlich said. "I've been a longtime supporter of selected charter schools because I feel they have the ability to innovate and act independently of

the bureaucratic structures that can be imposed by school district management. The OCEAN collaboration involves both charter schools and innovative traditional schools and hopefully will produce some very interesting outcomes that can be shared widely."

Podlich and his wife, Pat, are funding a partnership at three separate school sites: Katella High School in Anaheim; Williard Intermediate School in Santa Ana; and TLC Public Charter School in Orange.

Associate Professor Penelope Collins and doctoral student Maricela Banuelos worked at Katella High this past year, focusing on ways in which the diverse student body expresses and engages with the school's TED-talk-like research project, "Katella Talks."

Associate Professor June Ahn and doctoral student Ha Nguyen partnered with Willard Intermediate. The partnership worked on several projects centered around student-adult connectedness, including the creation of a "connectedness dashboard" that measures how well the teachers know each of the 712 students.

TLC Public Charter is joining OCEAN this fall. The school opened its doors to 55 students in fall 2018, and is unique among Orange County schools in that it places gifted students, students who develop typically, and students with special needs in the same classrooms.

"I think TLC and the research that OCEAN will produce from the partnership will be of a lot of interest to the traditional public school districts," Podlich said. "That, in turn, should result in some really good, additional collaboration."

"The goals set for this network – developing innovations that improve pathways for underrepresented students – those are things that everyone should be happy to collaborate on, and to share and gain from one another."

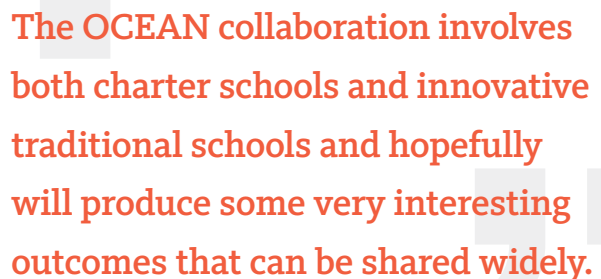
Podlich – whose father was a professor of education at Arizona State University – has always been interested in education. He serves as a trustee for the UCI Foundation, and is on the board of directors of the Beall Applied Innovation Center at UCI.

A graduate of Claremont McKenna College – where he also serves as a trustee – and the University of Southern California, Podlich began his career at Pacific Mutual Life Insurance Company. In 1971,

Podlich helped organize Pacific Investment Management Company (PIMCO) in Newport Beach, and served as its CEO until 1994. He retired from the company in 2008.

Podlich believes that OCEAN can be especially successful because it connects the faculty and doctoral students directly with the school administrators and students. From that, targeted research can be produced, he said.

"These partnerships can help dictate what professors study and the best ways to disseminate research into the public school system," Podlich said.



The OCEAN collaboration involves both charter schools and innovative traditional schools and hopefully will produce some very interesting outcomes that can be shared widely.

"If this goes well and there are some topics we can discuss in the educational community as a result of our work, then we can interest other funders in the country and rollout similar networks in different places. Then we can start something that would become a regional or national movement."

For more information on OCEAN, see page 10.

OCEAN Donor: Stacey Nicholas

Stacey Nicholas supports a three-way partnership between the School of Education, Breakthrough San Juan Capistrano and Marco Forster Middle School.



Josephine Sittenfeld

UCI Trustee and longtime supporter Stacey Nicholas. Nicholas is funding one of the partnerships in the OCEAN Network. For more information, see page 10.

A longtime supporter of UCI and Breakthrough San Juan Capistrano, Stacey Nicholas was immediately intrigued upon hearing that the School of Education was working to transform Orange County education.

“When I first met Dean Richard Arum, he started talking about his vision for Orange County public education, and how the School of Education partnering with local schools could be a boon to not only the entire county, but the entire nation,” Nicholas said. “When hearing that, I instantly thought about Breakthrough.”

Breakthrough San Juan Capistrano supports local, motivated students whose backgrounds are underrepresented in higher education by providing tuition-free academic programming and guidance from middle school through college graduation. Breakthrough recruits its students from nearby Marco Forster Middle School. More than 90 percent of Breakthrough students will be the first in their families to graduate from college; 94 percent are students of color; 89 percent qualify for free/reduced lunch, and English is not the primary language in 84 percent of homes.

Nicholas – who currently serves on Breakthrough’s advisory board and has been involved with the program since its inception in 2006 – is funding the partnership between the School of Education, Breakthrough and Marco Forster.

“It’s such a win-win to have the School of Education involved, and it’s a great two-way street,” Nicholas said. “It’s an incredible partnership when you have

so much data-driven research from UCI to help out the local schools, and for the local schools to, in turn, help influence the next areas of research.

"I am especially interested in the impact that OCEAN will have on traditionally underserved student populations."

OCEAN is comprised of both charter and non-charter schools, which was also appealing to Nicholas.

"There can oftentimes be polarization between schools in regards to their structure and philosophy," Nicholas said. "Getting involved in the community to close those gaps is crucial – it's important to work with, instead of against, different constituents."


This past year, Associate Professor Stephanie Reich and doctoral student Jennifer Renick worked at Marco Forster and Breakthrough SJC. Research at Marco Forster focused on school climate – data was collected that measures student perceptions' of the school's strengths and areas for improvement, as well as their sense of belonging. The findings are being disseminated to staff, students and parents, and will be used by school stakeholders to inform research projects and school improvement efforts. Research at Breakthrough seeks to measure the impact of certain programs.

"With her passion, determination, and prudence for creating educational opportunity, Stacey epitomizes the power of collaboration - the power of bringing together stakeholders with varied backgrounds toward one unified vision of supporting underserved students," said Alex Serna, director of Breakthrough SJC. "It's individuals like her, and projects like OCEAN, that make education transformation possible."

Nicholas is a trustee of the UCI Foundation Board. She has been an active supporter of UCI's Henry Samueli School of Engineering, serving as a member of the Dean's Engineering Leadership Council and the

Diversity Advisory Board. She also supports Applied Innovation and the Claire Trevor School of the Arts.

An alumna of UCLA, Nicholas also supports UCLA's Women in Engineering Program. Nicholas worked as a full-custom VLSI chip designer for TRW, an aerospace company now part of Northrop-Grumman; an Applications Engineer for NCR Microelectronics; a regional sales director at Symbois Logic, and helped her former husband form Broadcom Corporation in the early 1990s.



"It's an incredible partnership when you have so much data-driven research from UCI to help out the local school, and for the local school to, in turn, help influence the next areas of research."

"I'm so excited that UCI has a world-class School of Education, and it's right here in Orange County," Nicholas said. "It's a jewel and I hope that Orange County can see the value of what we've got here and the impact it will have on the community, and how this can be a model to the nation."

For more information on OCEAN, please see page 10.

Fellowship Donors:

Dr. Arnold ('90) and Esther Gutierrez

Inspired by UCI's designation as a Hispanic Serving Institution, the long-time chemist and his wife have established a fellowship for underrepresented undergraduates in STEM.



Dr. Arnold and Esther Gutierrez

In an effort to help underrepresented students gain lab experience and pursue graduate school in a STEM field, Dr. Arnold Gutierrez and his wife, Esther, this summer established the Gutierrez Family STEM Fellowship.

The fellowship is awarded to a junior or senior STEM student who has interest in pursuing a Ph.D. in STEM. The fellow is matched with a faculty advisor and research lab for the summer, and enrolled in UCI's Summer Research Scholars Program so that he/she can augment the undergraduate research experience and facilitate support from peers participating in research labs.

Gutierrez graduated from UCI in 1990 with a Ph.D. in Organic Chemistry. In 1992, he began a 15-year career at Gilead Sciences Inc. where, among other things, he co-lead a research group to develop and implement the full-scale manufacturing process for two drugs which were later co-formulated into a single medicine, Truvada. The drug both treats HIV infection and reduces the risk of HIV infection.

In 2017, UCI was designated a Hispanic Serving Institution (HSI), which requires that at least one quarter of undergraduates identify as Latino. UCI is also an Asian American and Native American Pacific Islander-serving institution.

The HSI designation inspired the Gutierrez family to establish the fellowship. The family now hopes the fellowship inspires others to contribute and support underrepresented populations in their pursuit of graduate school.

"A lot of my dreams came true thanks to my education," Gutierrez said. "I have an appreciation for UCI and a recognition that the institution is making the best effort to help underrepresented populations."

The fellowship is available to all students who qualify for the UCI CAMP program (see page 18), or are involved with the Mexican American Engineers and Scientists club (MAES).

CAMP is one of the many programs hosted by the Center for Educational Partnerships (CFEP), a robust center in the School of Education that creates

collaborations to support preparation for and success in higher education. Its programs support UCI undergraduates from all majors. Working in concert with the CFEP, the School of Education is creating opportunities for students in all disciplines to achieve the American Dream.

“The CFEP works to level the playing field and ensure that all students have the chance to achieve their full potential,” said Stephanie Reyes-Tuccio, assistant vice chancellor, educational partnerships at UCI. “Unfortunately, the financial demands of a college education can interfere with a student’s ability to focus on their studies and take advantage of all the campus has to offer. The generosity of the Gutierrez Family will provide an opportunity for an academic experience that can change the trajectory of a student’s life and future career.”

The inaugural recipient of the Gutierrez Family STEM Fellowship is Jessica M. Herrera. A native of Calexico, Calif., Herrera is a fourth-year biomedical engineering student and will be the first person in her family to graduate from college.

“The Gutierrez Family STEM Fellowship will help me in my journey to obtain a Ph.D. because it will provide me with the necessary financial resources to be in the laboratory, focus on my research, present at conferences, and apply to graduate programs in the fall,” Herrera said. “I am honored to receive the fellowship, and I am very thankful to the Gutierrez family for this opportunity and their support.”

Herrera, who wants to pursue a Ph.D. in biomedical engineering and become a professor, was inspired by a trip to the emergency room nine years ago. Her grandmother’s kidneys were failing and, being the only bilingual person in the room, Herrera communicated between the doctors and her family. She also learned of the different technologies that helped clean her grandmother’s blood and save her life, and became determined to create similar medical devices in the future.

As part of the fellowship, Herrera conducted research this summer in the DELTAi Lab (Directing Engineering & Life-science Translational Advances @ Irvine) under the supervision of Dr. Kyriacos Athanasiou, distinguished professor at the UCI Samueli School of Engineering. DELTAi is an interdisciplinary group whose objective is to repair articular cartilage defects through implantation of tissue engineered neocartilage. Cartilage degradation develops in approximately 31 million Americans each year, and current treatment options are ineffective in the long run.

Like the Gutierrez family, Herrera understands the importance of supporting her community. She works for Mathematics Engineering and Science Achievement (MESA), where she visits middle and high schools in underrepresented communities and helps motivate students to pursue STEM. She is also the founder and president of the Imperial Valley Society of Outreach and Leadership at UCI. In the role, Herrera engages in her hometown community of the Imperial Valley to inform students about college life, and motivate them to pursue higher education.

“Jessica is the exact type of person I imagined receiving the fellowship,” Gutierrez said. “She has goals and desires, and she will succeed. And once finished, she too will give back to her community.”



Jessica Herrera, inaugural recipient of the Gutierrez Family STEM Fellowship

Honoring the Past... Creating a Future

Founding Dean Deborah Vandell led the School of Education in its transition from department to school. Now, through a recently established endowment, her contributions will live on forever.



Deborah Vandell, founding dean, School of Education; with her husband, Kerry, dean's professor of real estate, UCI Paul Merage School of Business.

The UCI School of Education - with the support of faculty, alumni and community partners - this summer established the Deborah Lowe Vandell Endowed Education Fund. Named after Founding Dean and Chancellor's Professor Deborah Vandell, the endowment will support doctoral student research in the School of Education.

"I'm extraordinarily touched by the school's effort to fund the endowment, and honored to have my name on it, but the real benefit is what the money is supporting," Vandell said. "We have wonderful

doctoral students, and they're succeeding at the highest level in a variety of contexts."

The endowment was announced at an event hosted by Richard and Cheryll Ruszat, who also provided the endowment's lead gift.

"Deborah built the UCI School of Education into a school of excellence," said Cheryll Ruszat. "She is an amazing human being, an outstanding researcher, and a great leader who was able to attract other scholars with the same qualities to build the school."

Richard and Cheryll Ruszat are the president and executive director, respectively, of the Irvine Montessori Schools. One of their many contributions to UCI over the last three decades is the establishment of the University Montessori School on campus. The couple are long-time supporters of UCI across many disciplines. They are previous co-presidents of the Chancellor's Club, current trustees of the UCI Foundation Board, and in 2013 received the UCI Medal, the campus's most prestigious honor.

The Kay Family Foundation, a longtime partner on educational initiatives in Orange County, also contributed to the endowment.

"Deborah's impact to the community and the education field is immense; she grew Education Studies from a department into a full-fledged school because of her focused passion to revolutionize the



Cheryll and Richard Ruszat. This past summer the couple established the Deborah Lowe Vandell Endowed Education Fund.

study of education through a progressive approach,” Kay said. “We are honored to support her legacy.”

Gifts to support the endowment also came from alumni, particularly graduate students who were advised by the founding dean.

“I am fortunate to have worked with Deborah over the past few years, and to have learned from her,” said Kenneth Lee (’16, Ph.D.). Vandell advised Lee during graduate school and hooded him during his commencement ceremony. Lee, who now works as a senior research analyst at Pearson, contributed to the endowment. “Deborah’s mentorship has guided me and a number of her students to various careers and positions where we can have a positive impact on the development of children and youth around the world.”

This summer, Vandell was also bestowed the title of Chancellor’s Professor, given by UCI to persons who have earned the title of Professor and who have demonstrated unusual academic merit and whose continued promise for scholarly achievement is unusually high.

Vandell joined the Department of Education as chair in 2005. At that time, the university had as part of its master plan a desire to grow the department - which was already a powerhouse in teacher education - into a school. As chair, Vandell was tasked with recruiting faculty and establishing a doctoral program.

Working alongside university leadership – including former Chancellor Michael Drake, former Provost Michael Gottfredson, and former Vice Provost for Academic Planning Michael Clark - Vandell envisioned a school comprised of faculty whose research interests covered a multitude of disciplines. Following this strategy, the school would be one that focused on the myriad factors that affect human development and education, not just those confined within the classroom.

“That resonated with many of the professors we began recruiting; they shared a vision and saw the potential of a broader school of education,” Vandell said.



L-R: Susan Samuelli, co-founder, Samuelli Academy; Deborah Vandell, founding dean and chancellor’s professor, UCI School of Education; and Sandi Jackson, ex-officio Trustee, UCI Foundation and co-founder, Samuelli Academy.



Distinguished Professor Greg Duncan speaks at a June event celebrating the accomplishments of Deborah Vandell and announcing the endowment in her name. Duncan - one of the first professors recruited by Vandell to the School of Education - and his wife, Dorothy, contributed to the endowment.

Greg Duncan and George Farkas, leading scholars in economics and sociology, respectively, were among the first professors to join. A couple of years later, the department added Jacquelynne Eccles, a leading motivational psychologist. Duncan, Eccles and Farkas are all now distinguished professors at the School of Education.

In 2007, the Department of Education welcomed its first doctoral student cohort. In 2012, the School of Education was officially established. Vandell became the school's founding dean.

With a strong doctoral program and credential program in tow, Vandell and others turned their attention to establishing an undergraduate program. Derived from the structure and mission of the doctoral program, in 2014 a bachelor's degree in Education Sciences was created, the first of its kind in the nation.

"We owe a great debt of gratitude to Deborah for the School of Education's current personnel, programming and prowess," said Richard Arum, dean and professor. "Thanks to her, we are the home of internationally recognized thought leaders in a wide-range of disciplines. The school's faculty and curriculum study

the entire lifespan in a variety of contexts, and improve educational outcomes for all students."

Vandell's research focuses on the effects of developmental contexts – such as early child care, K-12 schools, afterschool programs, families – on children's social, behavioral and academic functioning. Her interest in the topic began while she was an undergraduate at Rice University. During a sociology class, she observed several different Head Start programs, and noticed a large disparity in the quality of programming.

"It struck me then that the difference in experience has to be making a difference in children's lives," Vandell said. "From that moment, it became what I was interested in studying, and here I am, 50 years later, studying the topic still."

In the late 1980s, Vandell began work as one of the principal investigators on the NICHD Study of Early Child Care and Youth Development. The longitudinal study tracked 1,300 children from birth to age 27 and counting. The study is considered one of the most comprehensive studies of the short-term and long-term effects of early education programs, schooling, and the family on children's development.

A native of Beaumont, Texas, Vandell will become an emerita faculty this fall. She is looking forward to continuing her research on human development, including the 1,300 children she's been tracking since birth; Vandell would like to track the group into their 30s.

"I am having so much fun doing research and writing and working with students and colleagues," Vandell said. "This research has implications for thinking about early experiences in children's later functioning, and the findings could suggest that quality settings are important for all children. That's a message I'd like to work on for the next 10 years."

The Deborah Lowe Vandell Endowed Education Fund is active. To make a contribution, please visit www.education.uci.edu/giving and choose the "Give Online" option."

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