

# The Next Generation Undergraduate Success Measurement Project



Dear Colleagues,

The University of California, Irvine School of Education is serving as a pilot demonstration site to develop and implement a state-of-the-art measurement project to improve our understanding of the value of undergraduate educational experiences, and promote evidence-based models of undergraduate student success.

The *Next Generation Undergraduate Success Measurement Project*, currently underway, is tracking for two years a random sample of 500 UCI freshmen, 250 junior transfer students, 250 continuing juniors, and 50 freshmen honor students. Data is being collected in three different strands, each overseen by a School of Education faculty member. Everything from transcripts to online classroom behavior, living situations to student moods is being considered.

Among the three strands - detailed throughout this brochure - the study is capturing student experiences both inside and outside the classroom, and painting a complete portrait of student experience at UCI.

Our research team will also create tools that other universities can replicate to assess the undergraduate experience on their own campus. Our findings 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.

As educators, we have a responsibility to be more intentional about how we ensure student achievement. It's time to use the tremendous amount of data at our disposal to understand what is happening on college campuses, and improve student experiences and outcomes. This study sets out to do just that.

The study, supported by the Andrew W. Mellon Foundation, began in November 2018, with student tracking beginning in September 2019. The research team includes 25 faculty from more than a dozen universities across the nation.

It is my pleasure to share this groundbreaking project with you.

Sincerely,

**Richard Arum**  
Dean and Professor  
University of California, Irvine School of Education  
Principal Investigator, Next Generation Undergraduate  
Success Measurement Project

## Administrative, Student Affairs, Course Taking Trajectories

Led by: **Michael Dennin**, Vice Provost, Teaching & Learning and Dean, UCI Division of Undergraduate Education, Co-Principal Investigator; and **Rachel Baker**, Assistant Professor

Like most universities, UCI has decades-worth of data that details students' social background, course enrollment and course performance. In the first strand of the *Next Generation Undergraduate Success Measurement Project*, researchers will begin data mining this previously untapped resource to better understand how a student progresses through college.

Information collected in this strand includes students' course information, such as enrollment history, their declared major, grades, and with whom they took their classes. It also includes what clubs students participate in, if they are a member of a fraternity or sorority, and their housing location.

In addition to this existing dataset, researchers in the *Next Generation Undergraduate Success Measurement Project* will incorporate new forms of administrative data gathered from student interactions with campus services and in advisement software platforms that have recently been utilized in Predictive Analytical Reporting systems.

Combined, the administrative data will provide a holistic perspective on how a diverse student body interacts with the curriculum to illustrate a student's pathway through college.

**"With this data, we can begin to understand the diversity of peers, and the diversity of academic trajectories, and look at student experience in abstract ways. It will lead us to understand how schools can better understand their students, and allow us to give actionable advice to schools on ways to help students graduate."** – Rachel Baker

**"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 dataset and established processes to ensure easy access by researchers to expedite improvement efforts."**

– Michael Dennin

## Learning Management Systems

Led by: **Mark Warschauer**, Professor

Online learning management systems have become ubiquitous in higher education; they're used to administer assignments, readings, lectures and quizzes, as well as facilitate group discussion. A thorough analysis of a student's behavior in an online system – their coursework, engagement with materials, and interaction with peers – is paramount to understanding their overall academic experience at a university.

The second strand will analyze students' online behavior in the Canvas Learning Management System, the most widely used platform for UCI courses. With the data collected in this strand, researchers can analyze how often and to what extent students are participating in discussions, when they are accessing and utilizing course materials, and when they are completing assignments.

A majority of the existing research and scholarship on online learning management systems has focused on a single class. The *Next Generation Undergraduate Success Measurement Project*, by comparison, will track all 1,050 students' online behavior, over all their classes, over the course of two years.

By combining the findings in this strand with the data collected throughout the project, we will develop a rich understanding of why and how students are succeeding or struggling, and how to most effectively provide corrective interventions where necessary.

**"There's more data available now than ever before in human history. We should be using that for the social good. We can really help students succeed, graduate, and have the lives and careers they need and envisioned."** – Mark Warschauer

## Survey, Experience Sampling, Performance Assessment

Led by: **Richard Arum**, Dean and Professor, School of Education, Principal Investigator; and **Jacquelynne Eccles**, Distinguished Professor

It's naïve to think that the entire undergraduate experience can be captured by focusing solely on classroom events. The *Next Generation Undergraduate Success Measurement Project* broadens the scope by administering multiple surveys and innovative experiential sampling methods.

Surveys measuring psychological functioning, along with assessments that measure cognitive performance, were administered to the students in September 2019, and will be given again at the end of the study. By conducting these studies at the beginning and end of the project, we will be able to determine if a student's ability to think in rigorous, critical ways is in fact affected by attending college.

A subgroup of the population will also receive random text messages throughout the two years. The messages will ask questions to capture students' physical and emotional state at any given moment. Questions can include where the students are, what they are doing, how they are feeling, and their interest level in the activity. Students will also receive a "daily diary" prompt where they will be asked to share their experiences over the past day or week.

Through this experience sampling, we will better understand what the student body is doing at any given moment, and how students' moods and emotions are affected by the myriad events that occur during college.

**"With these various surveys, we will be able to be very 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."** – Jacquelynne Eccles



# Additional Research

As of June 2019, the UCI School of Education faculty were principal investigators on grants whose total combined for more than \$90 million. The projects are funded by the most illustrious agencies in the country, and collectively study the entire lifespan of human development and teaching. Below is a small sample of our faculty's active grants.

- ▶ **\$14.73M**  
**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*
- ▶ **\$7.86M**  
**Greg Duncan - National Institute of Child Health and Human Development:** *Household Income and Child Development in the First Three Years of Life*
- ▶ **\$5.44M**  
**Stephanie Reyes-Tuccio - U.S. Department of Education:**  
*Compton Partnership GEAR UP*
- ▶ **\$3.3M**  
**Jade Jenkins - National Institute of Child Health and Human Development:** *Factors in Persistence Versus Fadeout of Early Childhood Intervention Impacts*
- ▶ **\$2.74M**  
**Jacquelynne Eccles - Institute of Education Sciences:**  
*It's Worth It! Securing Persistence, Performance and Progress within Postsecondary Gateway Science Courses through Utility Value Interventions*
- ▶ **\$2.65M**  
**Elizabeth van Es - U.S. Department of Education:**  
*UCI Teacher Preparation Expansion and Enhancement for Developing Effective and Equity-focused Educators*
- ▶ **\$2.5M**  
**Mark Warschauer - National Science Foundation:**  
*Investigating Virtual Learning Environments*
- ▶ **\$1.99M**  
**Carol Connor - National Institute of Child Health and Human Development:** *Developing Electronic-Books to Build Elementary Students' Word Knowledge, Comprehension Monitoring, and Reading Comprehension*
- ▶ **\$1.51M**  
**Hosun Kang - National Science Foundation CAREER:**  
*Expanding Latinx's Opportunities to Learn in Secondary Science Classrooms through a Research-Practice Partnership*
- ▶ **\$1.4M**  
**Young-Suk Kim - Institute of Education Sciences:**  
*What Does It Take to Develop Writing Skills for Spanish-speaking English Learners?*



## About the UCI School of Education

The UCI School of Education is focused on advancing educational sciences and contributing to improved educational opportunities and outcomes for all individuals across the entire lifespan. A diverse, dynamic, and collaborative institution, our research, community partnerships and programming are dedicated to producing innovative scholarship, addressing the needs of local schools, and inspiring future generations of educators.

Our campus is located in the heart of Orange County, the country'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 mission to facilitate conversations and establish partnerships with our local schools, so that together we can increase academic achievement and college access for students of all backgrounds.

We employ a multi-faceted approach to improving educational experiences for individuals of all ages and backgrounds. Our professors research learning and human development from infancy to adulthood; our partnerships improve best practices in local K-12 schools; we support the entire UCI student body with resources, programming and mentorship; and we lead professional development workshops for teachers and administrators. We are reimagining how a school of education can, and should, serve its students, campus and community.

This fall, we welcomed 29 students to our doctoral program, an all-time high. As our community grows, so too does the impact we can make in the lives of countless individuals locally, nationally, and across the globe.

UCI School of Education

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*The groundbreaking study from the UCI School of Education that is providing insight into the value of college*

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