CUES Fellows to Explore Ways to Transform Teaching and Learning

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The Center for University Education Scholarship [1] has welcomed a new class of Distinguished Fellows and a new director.

This cohort, the center's second, is the first under CUES' new director, Guadalupe Lozano [2], who took the position about a year ago. Debra Tomanek, professor emerita of molecular and cellular biology, led the center after it was established in late 2016.

Lozano has been on the faculty in the Department of Mathematics [3] since 2009, and is an associate research scientist and associate research professor. She is also director of external relations and evaluation for the School of Mathematical Sciences [4].

The center, founded with a $3 million gift from a donor who asked not to be named, aims to catalyze the practice of scholarship and innovation in university teaching and learning. Its Distinguished Fellows program [5] provides $20,000 to each fellow annually for up to three years, allowing fellows to develop projects that align with the CUES mission and provide institutional value to the UA.

The fellows' projects explore educational grand challenges, design, implement and assess innovative teaching and learning approaches, or create tools that enhance or scale evidence-based pedagogical practices.

The faculty selected for the fellowships [6] are:

- **Bryan Carter** [7], associate professor of Africana studies and director of the Center for Digital Humanities
- **Matthew Mugmon** [8], assistant professor of music and holder of the Daveen Fox Chair in Music Studies
- **John Pollard** [9], associate professor of practice of chemistry and biochemistry and assistant dean of academic affairs in the Honors College
- **Shelley Staples** [10], associate professor of English

Pollard, who was part of last year's inaugural class [11], was selected for another round of funding.

The 2019 Fellows' projects involve ways to improve the undergraduate research experience, studying international students' writing assignments to improve pedagogical practices, and building faculty capacity to harness the power of the digital age for university teaching.

Reflecting on his time as an undergraduate at the University of Pennsylvania, Mugmon found that there is a "disconnect" between the way undergraduates are taught to study music history
and the way musicologists do their research. Though much music-related research is done with primary sources — original documents such as letters, manuscripts and diaries — undergraduates are taught historical aspects of music using mostly secondary sources and textbooks that compile and summarize the content and analysis of primary sources, he said.

It's often not until graduate school that students are expected "to really dig into what kind of materials there are inside archives, collections of materials that belong to people, or letters sent from one person to another, and to analyze those sorts of things," Mugmon said.

Mugmon's project sets out to make work with original source materials central to undergraduate education.

While similar work has been done before in various fields, "I want to find ways as a teacher to highlight and expand that sort of practice," Mugmon said. By identifying overlooked materials in archives, he added, the effort will also give students access to learning how underrepresented groups have contributed to shaping culture.

As director of the Center for Digital Humanities, Carter uses various technological tools to teach Africana studies. He'll spend his fellowship building on that work.

"My CUES fellowship will enable research in not only advancing the connection between technology and Africana studies but also explore the nature of how immersion affects one's interaction and engagement with course content," he said.

Staples will spend her fellowship growing and mining a recently created corpus — or a collection of texts, particularly students' writing assignments, from three first-year English composition courses designed for international students. The aim of her project is to explore this large data set to create materials that the courses' instructors can use to improve their teaching practices.

"We're not only doing descriptive analysis and seeing what's going on in these student texts," Staples said, "but we're then using them to develop materials, and then the teachers are going to be using those materials in their classroom with students."

Staples is no stranger to this type of work. Along with faculty at universities around the U.S., she developed the Corpus & Repository of Writing, or Crow, to study students' writing strengths and potential areas for growth. But her project for CUES focuses more on pedagogy — a lens that Lozano said is "the very relevant for CUES."

"I am just so excited that CUES exists, because it's not something that you see a lot of," Staples said.

New director

As a mathematics graduate student at the UA in the early 2000s, Lozano became interested in how math is taught, learned, and understood, and helping students see and access the power of thinking mathematically in any field, not simply learning how to pass a required course. That interest led Lozano to focus her postdoctoral work on content, pedagogy, and knowledge measurement tied to mathematics education. Her current discipline-related work includes improving access and delivery of quality mathematical know-how, and exploring ways to transform STEM education at Hispanic-Serving Institutions such as the UA.
Lozano’s interest in leading CUES came from the center’s mission, she said, which involves cultivating intersectional expertise, both by unpacking topics that bridge across disciplinary divides, or by charting the space between education scholarship and faculty members’ expertise in their respective disciplines—two areas that are often kept separate in higher education.

“That's what CUES does. It supports the development of expertise in scholarship of teaching and learning that is informed by one or more disciplines, and it's of benefit to university education, specifically,” Lozano added.

To this end, the center also offers events, such as symposia and seminars, for faculty, organized by Lozano with the input from the Distinguished Fellows and members of the CUES Advisory Board. This past spring, a new knowledge-generating workshop series titled Mapping Educational Challenges, or MECha, was piloted.

MECha workshops are designed to bring together faculty from across the University to ask and answer questions on teaching and learning of critical relevance to multiple disciplines. The first one, on quantitative intuition, brought together 30 faculty and administrators from nine colleges at UA.

As Lozano looks to what the future holds for CUES, she said she hopes she can garner more interest in transforming teaching and learning among faculty across the UA.

In visioning a future for CUES, Lozano sees an opportunity to be at the forefront of change and build capacity to tackle key ideas and challenges, while building on UA strengths and values.

"CUES can function as an epicenter for pushing the boundaries of the scholarship of teaching and learning in the ever-evolving landscape of university education," she said.

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