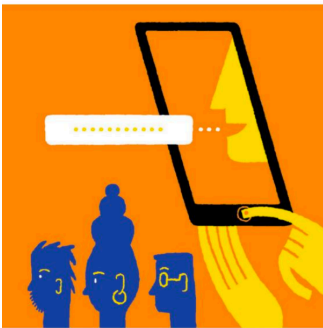




## TOP TEN TEACHING INNOVATIONS

**IF YOU GRADUATED BEFORE 2000**, chances are good that the internet didn't figure large in your learning. Now the world is linked by technology, and professors and students are leveraging online resources and hyper-connectivity in highly effective ways. But "innovation" doesn't always mean "high-tech." When we polled our associate deans on the top 10 teaching innovations over the last 20 years, some answers had nothing to do with technology, and everything to do with more meaningful interpersonal interactions. If you haven't sat in a classroom for a few years (or decades), you'll likely be heartened that connection remains at the heart of what we do. And we are getting better at it all the time.

ILLUSTRATIONS BY ADAM McCAULEY



## Classroom Clickers

**POP QUIZ.** How do you engage students in a large lecture, many of whom might be hesitant to speak up in front of dozens of peers?  
If you answered, "With an audience response device," you ace'd this little test.

These devices, often known as "classroom clickers," started showing up in college classes about 15 years ago. Resembling small television remote controls, they allowed students to respond in real time to questions their professor posed from the front of the room. They let both the professor and student gauge how well everyone was absorbing material.

These days, students simply download an app and use their smartphones to participate. Physics professor Duncan Carlsmith has used an audience response system called Top Hat in his large lecture courses for several years. "Students like seeing the responses scroll in the overhead projector view, a bit like a Twitter feed," he says. "If I simply ask for oral responses, generally just one student will raise a hand. [Now] I get close to 80 responses from 80 students rapidly."

Throughout a lecture, Carlsmith will pause to ask a few multiple-choice, text, math or graphical-response questions. While answers display anonymously, the system tracks submissions, automatically rewarding students points for participation and correctness.

—Katie Vaughn

## Sharing Experiences Across E-platforms

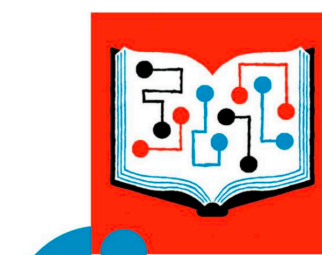
**FROM BASIC E-TEXTBOOKS** to exotic interactive maps, the range of educational resources students can access online now is breathtaking. But new e-platforms, including class diaries and blogs, that enable students to view each other's work and learn from each other are also game-changing. Students enrolled in internships in the Liberal Arts & Sciences, a one-credit online course for students participating in internships during the fall, spring and summer terms, use a wiki website to reflect on the class's weekly readings on workplace issues. They also rely on the friendly, thoughtful back-and-forth that unfolds there to get help with practical matters and weigh larger concerns. Whether students experience doubt, confirmation or accidentally stumble upon a promising new occupation, having the opportunity to muse honestly with their peers goes a very long way, according to English professor Russ Castronovo, who leads the class.

—Louisa Kamps

## Using Data to Improve Teaching

**WHILE POLICYMAKERS CONTINUE DEBATING** how big data can improve education, many instructors are already using so-called "small data"—course-level data and analytics—to build better classes. To track progress in her popular journalism and strategic communications class, Mass Media Practices, professor Kathleen Bartzan Culver downloads students' weekly grades into spreadsheets. Analyzing and comparing data both week-by-week and across sections, she can determine whether teaching assistants are grading either too stringently or too easily, or when an assignment just didn't land well. When students' average scores were low on a feature writing project, for example, Culver's analysis led her to realize that she needed to revamp the materials. Perhaps most important, Culver shares her fine-grained data with students who come in for help, so they know where to focus their efforts to improve.

—Louisa Kamps



## Digital Literacy

**LAPOTOPS AND PHONES MAY BE UBIQUITOUS,** and students spend more time on them than ever, but there is more to digital literacy than posting, surfing and swiping. The Digital Studies Certificate was created six years ago to train students in some of the most basic skills of our age: producing and assessing communication in digital media. The program's goal is to graduate students with more than just technical proficiency.

"It's not about teaching students the newest app," says Rob Howard, director of the Digital Studies Program. "It's about offering them tools to think critically about digital media."

Students probe how digital technologies affect the way we access and understand information. And they acquire the skills to create expressive and strategic communication content, utilizing software for video and audio editing, website design, database and information architecture design and more.

State-of-the-art labs—Media Studios and DesignLab—in College Library support students' developing skills. Media Studios is ideal for students experimenting with "rich media" (video, audio or other elements). DesignLab offers free one-on-one tutoring with trained design consultants, who help students with everything from conceptualizing the first steps, to polishing a nearly finished project.

—Mary Ellen Gabriel

## Connecting Students to the World

**"WE'LL FIND OUT WHERE PROFESSOR HAWKS IS TODAY!"** That's what students often say excitedly just before they head into John Hawks' classes. The genial anthropology professor could be there in person. But there's also a possibility he could be beaming in, via Skype or a video feed, from a remote excavation site in South Africa, or the office of a Chinese, Russian or African colleague. Lately Hawks led students through a windswept cave in Gibraltar where the last known Neanderthals in Europe scratched a distinctive—yet oddly familiar—symbol of slashed lines known as the "hashing."

"I grew up in a small town in Kansas where I didn't know anybody who had a career in science," says Hawks, who co-led an international team in the 2013 discovery of a previously unknown human ancestor they named *Homo naledi*. "I think really hard about how I can help people recognize the importance of science and how it contributes to—in our case—everybody's understanding of themselves. It's not isolated in a laboratory. It really is a story of international collaboration."

—Louisa Kamps





## Large Courses as Active and Inclusive Environments

**ANTHROPOLOGY PROFESSOR JEROME CAMAL** teaches two back-to-back sections of his department's biggest lecture class, Cultural Anthropology and Human Diversity, with up to 450 students enrolled in each section. Luckily, a team of education and technology experts has his back. Consultants from REACH, a new university initiative designed to transform high-enrollment courses into more inclusive and active class environments, are helping Camal and others leverage online learning tools, follow standardized teaching objectives and employ pedagogic strategies proven to improve learning outcomes.

One simple yet effective strategy: encourage students to personalize their learning. When Camal introduces a new concept, he asks students to reformulate it in their own words. "They remember the idea better because they worked with it," he says. He also uses online quizzes that offer a way for students to identify their own learning style and work as they prefer, boosting self-direction.

—*Louisa Kamps*



## Residential Learning Communities

**STUDENTS MIGHT LIVE AND BREATHE** their major, but if they also eat and sleep it, they're probably part of a residential learning community (RLC).

These programs bring together students, faculty and staff who unite around a theme – biology, the environment or identity – or a shared desire to form a tighter-knit community at a large university.

The 10 residential learning communities – half of which are sponsored by L&S – are set within residence halls across campus. Each has its own programming, including special class sections, seminars and volunteer opportunities, and works hard to build relationships around its mission, says John Zumbrunnen, professor and chair of the Department of Political Science and faculty director of Chadbourne Residential College since 2015.

"Students know that at an RLC they will find fellow residents and staff who share their interests," he says. "Learning occurs not just in the classroom, but on the floors and in the common social areas. Students interact with one another and with faculty and staff around shared academic interests – but they do this where they live."

—*Katie Vaughn*

