

The Future of Learning

By JOSEPH J. RENCIS Dean of the College of Engineering

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

- Alvin Toffler, writer and futurist

Cal Poly Pomona graduates are sought after and well-respected by business, industry and graduate schools. We earn this reputation due to our learn-by-doing approach to education that graduates Day One professionals. Our graduates have two feet on the ground and two hands on the problem and do meaningful work on their first day on the job.

While Cal Poly Pomona continues to produce workforce-ready graduates, we must also graduate individuals who will thrive and adapt to an ever-changing workforce that is, as University President Soraya M. Coley aptly describes it, the Future of Work and Human Engagement.

A Forever-Changing Industry

According to the World Economic Forum, "In many industries and countries, the most in-demand occupations or specialties did not exist 10 or even five years ago, and the pace is set to accelerate." To keep Cal Poly Pomona and its graduates continually relevant in this changing world, we must prepare high-impact graduates who not only get the jobs of today and tomorrow, but also create and lead the jobs of the future.

Based on my conversations with industry and business leaders, they consistently focus on two items. First, their most valuable asset is human capital; and second, they need to hire innovators to compete in today's global marketplace. To meet their needs, industry recruits T-shaped graduates who have both depth (vertical stroke of the T) and breadth (the horizontal stroke of the T). The depth and breadth contribute to the creative process and collaboration across disciplines, respectively.

Now, let's consider the need to graduate students with the three dimensions of leadership. The first dimension, technical leadership, provides the foundation. Technical leadership with discipline-specific knowledge contributes to strong problem-solving skills, open-ended design skills, creativity and the confidence to innovate.

The second dimension, professional leadership, will ensure our graduates are wellrounded. We need to foster dynamic, agile and resilient individuals with a commitment to lifelong learning, an entrepreneurial spirit, interdisciplinary teamwork, excellent communication and high ethical standards.

Finally, the third dimension, global leadership, will embrace the world. Global leadership is essential for our graduates to build skills to address the world's challenges that impact humankind.

The Graduates We Must Produce

Companies today are looking to hire graduates who meet these criteria to help them innovate to continually compete in the marketplace. Failure to do so means going the way of Kodak. Fifty years ago, Kodak was a top five global company. Today, it is trying to reestablish itself after a failure to innovate led to bankruptcy in 2012.

There are many definitions for innovation, but I will focus on innovation that is so profound that you cannot remember the way life was before it. For example, the internet is an innovation my daughter has always known throughout her life.

How are these innovations produced? Based on a study by Stanford University, innovations on a large scale occur at the intersection of three components: STEM, business

Future continued on page 44

FUTURE continued from page 15

business and the liberal arts. STEM focuses on feasibility of ideas (i.e., is it feasible to do this based on what we know about the natural laws.) Business curriculum focuses on viability (i.e., what does this do to produce dollars? Do you have enough capital? Is it legal to do this and how can you sustain it over time?) The liberal arts curriculum focuses on what is desirable to people (i.e., what is the meaning of truth, what is the meaning

Students should be exposed to all three components, but it appears to me that our traditional educational model prevents us from producing innovators. When students go to college and choose a major, they are isolated into expert groups on campus. To graduate innovators on a large scale, all three silos must come together.

I do not purport to have a solution on how to update our models of education. Instead, I hope to encourage conversation on why we should update our models and eventually, how to do it. Humanity requires that Cal Poly Pomona graduate individuals who can articulate and think within the three components of innovation and expertise. They will make significant contributions for the betterment of humanity and advance society on a daily basis. They will not only be prepared for the Future of Work and Human Engagement, but will also define and lead it.

"The future of work consists of learning a living."

- Marshall McLuhan, professor and public intellectual



October 6 & 7

Pumpkin Festival

A sea of orange pumpkins in every size and shape will blanket the Farm Store's field at the annual Pumpkin Festival. Bring the family to pick the perfect gourd, wander through the corn maze, stop by the Insect Fair and enjoy other festival activities. If you can't attend the festival, you can visit the pumpkin patch through Oct. 31.

cpp.edu/pumpkinfestival or 909-869-6722

BOUZA continued from page 30

Holistic Approach

Bouza has learned that architects need to look at communities as a whole, not just the buildings. It's a message she tries to impress upon students and younger architects.

In Gensler's work with Netflix, understanding the client's business has been key. Her team came to recognize that the DVD-by-mail-technology-companyturned-media-empire has a strong culture



of "freedom and responsibility" and incorporated those values in the design of several local and global projects.

"They are an amazing company, and their space needs to be able to evolve as they continue to look to the changing landscape of media platforms," she says.

Gensler also has done a range of projects for Duartebased City of Hope, including a medical office building, new workplace offices and a campus master plan. The firm's strategy and brand design team helped City of Hope develop the communications and graphics materials for its Diversity and Inclusion Strategy program to best align itself to the population it serves.

"Architecture is beyond designing buildings," she says. "You have to look at the overall client relationship. I always encourage those entering the profession to look at architecture more holistically."

The ability to collaborate, communicate effectively and listen are as important as the practical skills related to design, she says. In an architecture class, students might work alone on a project; in the working world, it's about collaboration and the exchange of ideas.

"So much today is about conveying an idea," she says. "The world is less patient. You have to be quick and to the point, nimble to change and articulate. Know your audience."

September 1

Cal Poly Pomona Day at the Fair

If you crave fried foods on a stick, carnival rides and farm animals, Cal Poly Pomona Day at the Los Angeles County Fair is the cure. Student clubs will display their work, and the university will be featured in the parade. You can also visit the goats, sheep and other cute animals, many of which are on loan from the Huntley College of Agriculture. lacountyfair.com



October 19-28

Someone Gets Catfished in this **Shakespeare Classic**

Shakespeare penned nearly a dozen comedies, but "Twelfth Night" stands out as a masterpiece. Shipwrecked on the shores of Illyria, Viola disguises herself as a boy and works in the court of Count Orsino. He attempts to woo the unresponsive Olivia but Viola falls in love with the count, upping the stakes in this classic comedy. cpp.edu/class/theatre-new-dance

November 1

CPP Night at Honda Center

Last year, 1,000 Broncos and friends watched a hockey game and scored an exclusive Cal Poly Pomona-Ducks hat. This year, attendees can get the limited-edition green and gold Ducks-CPP beanie. Tickets are limited, and the event will sell out. cpp.edu/alumni/events