



By Paul Rothstein, IDSA

Paul Rothstein was an associate professor in the School of Design at Arizona State University in Tempe and director of InnovationSpace. The design community tragically lost Paul on March 7, 2005.

Rethinking Design Education in a Time of Change

RISKS & REWARDS

We've arrived at the proverbial crossroads. To the left is a worn, familiar path that we have been traveling for quite a few years now. We know where the path leads. So do a lot of others. To the right, there is only the hint of a path, a few barely discernible features in the landscape that suggest a way forward. How do we decide which way to go? How do we guarantee that we'll make the right choice?

Many of us in design education ponder just such uncertainty on a regular basis as we craft the educational programs that determine our students' futures. But we linger in the crossroads at our peril. Like boulders crashing down a hill, very real threats are speeding toward us. Globalization, for example, has created an unprecedented challenge for US design education. In countries such as China, India, Singapore and Korea, traditional core competencies (e.g., problem solving, form development, human factors, design for manufacturability, computer visualization, rapid prototyping) are being taught to ever-increasing numbers of highly competitive students—with excellent results. Keen to capitalize on new design opportunities, these ambitious countries are forming strategic partnerships among design education, government and the private sector as a way to fuel economic development. With such extraordinary support, the partnerships are creating undergraduate and graduate programs that could marginalize US programs in a matter of years.

The US design community is largely unprepared to meet these enormous threats to education. In the United States, the relationship between design education and design practice is arguably immature and hampered by misunderstandings, a lack of funding and outdated expectations. **Reimagining, redefining and retooling the value exchange between education and practice is long overdue and urgently needed.**

And design education is fighting its own battles on the home front. Administrators in large research universities increasingly view industrial design with indifference, primarily due to the modest contributions design programs make to university-wide initiatives and the bottom line. **With notable exceptions, far too many university industrial design programs are isolated and starved for funding. As educational institutions adopt corporate-like accounting policies, programs like ours are perceived to be underachievers.** They become easy targets when budgets need to be slashed and academic programs eliminated. So far, the administrator's ax has largely spared design programs, but they remain vulnerable.

Food for Thought

At Arizona State University (ASU), my colleagues and I have responded to challenges from abroad and fiscal threats at home with new ideas and directions. By becoming habitual networkers and entrepreneurs on- and off-campus, we believe we have positioned our program for success in the future. In the process, we have learned a few things about re-energizing an educational program in a time of change. A few tips:

Define a big idea. Consider the impact of the Bauhaus on design. Or Victor Papanek. Or the Cranbrook Academy of Art during the 1980s. All three prospered and revolutionized design practice precisely because of the power of their intellectual ideas. Perhaps it is time that more of our educational programs follow their lead to differentiate ourselves from the perplexing sameness that pervades much of US industrial design education. **With compelling ideas and programs, we could potentially leapfrog global competition and establish a competitive advantage for years to come.**

Almost overnight, our discipline and practice have grown more specialized. Perhaps the various design schools should take their cues from this development and focus their programs in targeted areas such as user-driven research, experience interactions or innovation management. Or perhaps more of us ought to resurrect the entrepreneurial roots of industrial design and create ambitious cross-functional programs that inspire an entire generation of “new invention designers” to start businesses rather than work for businesses.

Become an asset. To some degree, ideas change the world because the world is ready for a change. In other

words, context matters. For design educators, this suggests that our big ideas be shaped to support an institution’s strategic goals and initiatives. As any seasoned academic will tell you, programs that help a university achieve its goals are typically offered a grown-up’s seat at the table, with new faculty hires and large sums of funding often served for dessert. Our challenge is to get a seat at the table.

The good news is that universities often focus on worthy, interesting stuff: sustainability, advanced technology, world peace, cancer research, etc. The bad news is that industrial design programs are often ignored while the 800-pound gorillas—engineering, business and the sciences—divide the spoils. In spite of this common problem, our education programs, with more innovative and substantial involvement from design practice, must find ways to reinvent the value proposition on campus and emerge as an asset rather than a liability to university leaders.

Make new friends. New friends create unexpected opportunities, contacts and resources. **On most university campuses, for example, partnering with programs in science, education, business, medicine or engineering will open doors to an amazing network of connections and resources. But we must give these disciplines compelling reasons for wanting to create partnerships and equitably share funding.**

In this regard, designers possess a great advantage: applied projects. Much like outside consultants, university design programs can provide a valuable on-campus service and, in the process, create partnerships based on the development of new inventions and their transfer to the private sector. These project-based

interactions can create incredible transdisciplinary educational experiences for our students, fund research opportunities for our faculty and produce short- and long-term revenue streams for our programs.

Off campus, it may be time to expand our network beyond design consultant offices and corporate design groups. Like other applied disciplines (especially engineering), we should establish partnerships with venture capitalist groups, intellectual property consultants and start-up companies. Entrepreneurial and product-focused, these groups are often eager to collaborate. With contracts and common sense, strategic partnerships can open the golden gates to real-world market opportunities for students and faculty.

How It's Worked

At ASU, we applied these lessons over a two-year period. We found ways to create alliances with the gorillas on campus and the sharks in the private sector. As a way to build partnerships, we met with leaders and faculty from business and engineering to educate them about product design and how it can contribute to the success of their education and research missions. Like cyber-spies, we inventoried a wide assortment of faculty and applied research projects at ASU as preparation for hosting a series of "Design Collaboration Sessions" during which intellectual-property consultants met with faculty and students from business, engineering and design to explore and define tangible applied projects.

We also studied the university's strategic interests, identified its core competencies and learned as much as we could about the university's vision for the future. Like good salespeople, we made sure that university administrators understood what we had to offer and how it could help them achieve their goals. We high-fived when the president of our university began citing our program in public as an example of success on campus—no small feat in a university with over 125 under-

graduate degrees, 155 graduate degrees, 50,000 students and 2,200 faculty.

Having done the necessary homework, we focused our design program on one of the top-tier challenges of the 21st century: creating socially and environmentally responsive designs that succeed in the marketplace. We formalized and expanded this educational focus in a new university-supported research laboratory known as InnovationSpace. In this lab, cross-functional teams of faculty and students—drawn from business, graphic design, engineering and product design—explore integrated innovation, a new model for sustainable product development. But this is no mere academic exercise. **By lifting ideas off the drawing board and into the marketplace, InnovationSpace teams not only develop socially and environmentally responsive product design concepts, they also craft business plans and marketing/communications strategies to support the transfer of these concepts to the private sector.**

This approach, which we call social entrepreneurship, augments several larger university initiatives. ASU, for example, has recently invested \$15 million in a new International Institute for Sustainability and millions more in a new Entrepreneurship Program in the School of Engineering. To date, integrating social entrepreneurship into the DNA of the industrial design program has helped us attract substantial university funding and external funding, institutionalized our relationship with business and engineering, and created concrete opportunities for students and faculty from various disciplines to collaborate with external groups and build intellectual capital about sustainability and product development. In the process, our students have become more ambitious, independent, eager to take risks and able to lead change.

While our success is hardly guaranteed, we spend a lot more time these days engaging tomorrow's opportunities than we do worrying about yesterday's threats. ■

Paul Rothstein, IDSA, of Arizona State passed away in his sleep, March 7, 2005. Paul was one of our leading lights, a colleague who was moving design education forward, pushing the pace of our change to match that of the profession and exceed it. Paul helped bridge design education and practice, enriching design as a whole and all its contributors. As a professor of industrial design at ASU, he articulated new methods and processes for sparking user-centered business and design innovation. The profession mourns the passing of a good friend and an innovator in design education.

—Ron Kemnitzer, FIDSA