JOHNSON FEEDS AN INCREASING HUNGER FOR TRAINING IN HUMAN-CENTERED INNOVATION.

BY MERRILL DOUGLAS
Those aren’t proposals you’d model on a spreadsheet or vet in your Monday morning conference call. But “what-ifs” of this sort can lead to breakthrough innovations, say proponents of a process known as design thinking.

At Cornell’s campuses in Ithaca and Manhattan, such suggestions fill the air some days like mobs of paper airplanes. Design thinking fever has spread from Cornell Engineering to Johnson, Cornell Tech, and the Johnson Business Executive Education program. In short workshops and half-semester courses, teams of students more accustomed to flow charts and PowerPoint slides wield quirksier tools — papering walls with colored sticky notes, building prototypes from pipe cleaners and cardboard tubes.

Design thinking has grown so popular, it’s spawned a new campus organization — Big Red Design. And some Johnson alumni use design thinking principles to spark creativity in their work.

“There is a growing demand among our students for this kind of training,” says Ingrid Jensen, associate director of Leadership Programs at Johnson. “It’s so radically different from anything else we do here.”

Also known as “human-centered design,” design thinking (DT) springs from the belief that if you want to make something valuable — be it an object, a product line, a service, or a process — you must first understand the needs and emotions of the people who will use it.

The epicenter of DT in the United States is the Hasso Plattner Institute of Design (“d.school”) at Stanford University, founded by design pioneer David Kelley. As taught there, DT follows five steps — Empathize, Define, Ideate, Prototype, and Test. If that sounds dry on paper, in practice it’s anything but.

Lecturer Tracy Brandenburg, who teaches DT at Johnson, knew that something strange and wonderful was up from the minute she stepped into the d.school to join an executive boot camp. “The bathroom has hot pink walls and disco balls,” she says. And the school ensures that not even the most fleeting inspiration gets a chance to slip away. “You can write on everything at the d.school — from the walls to the sofas.”

DT came to Cornell by way of the Systems Engineering program, where Brandenburg (an anthropologist by training) and Sirietta Simoncini (an architect) started co-teaching a class called “The Art of Innovation” in 2013.

Several Johnson students took that course and brought the buzz back to Sage Hall. Soon, Brandenburg was leading workshops and classes at Johnson and helping to kick off the new Johnson Cornell Tech MBA with a one-day session focused on generating new applications for Google Glass.

**Bias Toward Action**

So what is a methodology rooted in design — the art that defines the shape of a car or the layout of a theme park — doing in business school?

Business leaders need DT because businesses need great ideas, says Jensen. “MBA programs spend a lot of time talking about innovation, but maybe not enough time discussing how you create an environment that can spur innovation.” For an MBA candidate, DT provides a competitive edge, she says. “Being able to foster an environment that nurtures creativity will set you apart.”

To lecturer Toddi Gutner — who teaches DT at Cornell Tech, led a two-day workshop for Pfizer in March, and recently led a two-day DT Innovation Lab for Cornell Executive Business...
Education — part of the business value lies in DT’s stress on rapid prototyping.

“Most companies don’t have a bias toward action,” Gutner says. “They have a bias toward process and meetings.” Competing in a world where a product’s lifespan may be three to six months, companies must learn to propel great ideas into the world, she says.

**HOW DESIGN THINKING WORKS**

Because DT is so action-oriented, the best way to understand this set of tools for innovation is to watch people deploy it.

Each DT exercise tackles a challenge. In workshops and courses at Cornell, those challenges are real business issues, posed by corporate partners.

For instance, the class that Brandenburg and Simoncini taught in the fall of 2012 explored how JetBlue might create a happier airport check-in experience. In spring 2015, Gutner and co-lecturer Marc Brudzinski challenged students at Cornell Tech to invent more satisfying ways for visitors to find their way around New York’s Metropolitan Museum of Art. During that same semester, students working with Brandenburg at Johnson in Ithaca collaborated with Airbnb on solutions to some of that company’s most pressing challenges.

With a project on the table, the group splits into teams of maybe four or five people. To make sure it attacks the problem from many different angles and can draw on a range of skills, each team must be as diverse as possible.

“I actually do recruiting,” Brandenburg says. “I look for engineers, computer scientists, designers.” For the Airbnb challenge, she also brought in students from Cornell’s School of Hotel Administration.

Diversity was key to the success of a series of workshops that Nora Hansanugrum, MBA ’13, recently helped the consulting firm HR&A Advisors lead for groups of city, state, and federal officials.

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— Deborah Philips, MBA ’14, product manager at Starbucks

Delighted to find a unicorn, their totem animal, in a store in San Francisco, design thinking trainers Marc Brudzinski and Tracy Brandenburg had to stop for a pose with this taxidermy creature.

“FAIL FAST and FAIL OFTEN.”

— Tracy Brandenburg
and county government officials. During the workshops, which included DT-style brainstorming sessions, government leaders created strategies for boosting community resilience. Then they developed grant proposals, seeking funds to support their strategies.

“The brainstorming sessions allowed people to share their diverse experiences, whether they were emergency managers or the city manager or the city engineer,” says Hansanugrum, an independent project consultant in New York. Assembling people with very different responsibilities — and people who work in different jurisdictions, both urban and rural — triggered a lot of great ideas, she says. “And forcing them to put ideas on paper without evaluating or analyzing at that moment allowed people to see the realm of possibilities.”

Once they learn the challenge and form their teams, participants in a DT class or workshop get down to business. Or, rather, they get down to play. It’s not unusual to see people painting glitter tattoos, strapping on homemade unicorn horns, or competing in fierce games of rock, paper, scissors.

The silliness helps persuade team members that it’s safe to let imagination soar. Solutions that feature, say, holograms, hovercraft, or airborne pods are eminently welcome.

“Eventually, we want to get down to something that’s viable, feasible, and desirable, but let’s start with crazy,” Brandenburg says. “We don’t want to weed out any innovative ideas that could spark other ideas.”

Before suggestions start flying, though, teams need to delve into the minds of the people who will use their solutions. That’s the Empathize stage of DT. Often, team members interview people who might use the solution, not so much asking what they need (since subjects often can’t define that) as probing their feelings about their situation. Sometimes, they simply observe human behavior from afar.

Rachel Happen, MBA ’13, who worked on the JetBlue challenge at Cornell, relies heavily on empathy as she designs handmade puzzles for her startup company, Baffledazzle. “When I think about creating a new product, I start with, ‘What’s the current experience of solving a puzzle, what’s the experience I want someone to have, and what’s the highest and best purpose of a puzzle?’” she says. Some of her early insights came from talking with members of a local puzzle club in Portland, Ore.

Anne Cramer, MBA ’01, has used a related technique, called customer journey mapping, in her work as a management consultant. In journey mapping, people from all corners of an organization get together to chart out every interaction a customer might have with that company.

“Visualizing the entire customer experience on a map allows you to see where there are clusters of painful interactions,” says Cramer. “Eventually, we want to get down to something that’s viable, feasible, and desirable, but let’s start with crazy.”

Who’s the user?

With interviews and observations complete, a DT team creates a portrait of a user in words and then defines a problem to solve for that individual. In the Metropolitan Museum challenge, for instance, one team focused on visitors who like to immerse themselves in certain places and eras represented in the collection. “Sometimes these people find it hard to figure out where to go next,” says Brudzinski.

From that insight grew the idea to employ silent, roving “Pied Pipers” dressed in distinctive styles, whom museum visitors could follow to the Egyptian Temple of Dendur, for instance, or the gallery of modern and contemporary art.

After definition comes ideation. That’s when the felt-tipped markers and sticky notes come out. Teams brainstorm about how to
solve the user’s problem, employing prompts such as “How might Harry Potter (or Mark Zuckerberg or Taylor Swift) do it?” to stimulate ideas. One idea begets others, and they all go up on the wall. Over time, members sort ideas into groups, looking for patterns. At last, the most desirable and feasible proposals emerge.

Deborah Philips, MBA ’14, recalls using a DT-based ideation process at an innovation meeting at Starbucks, where she works as a product manager. “We covered the walls and immersed ourselves in the ideas,” she says. Not only did the exercise prompt great suggestions, but it unified the cross-functional team that was tackling the challenge. “It really helped when people got out of their chairs and physically interacted, putting things on the wall,” she says. “It changed the nature of the room.”

Ideation also generated insights that wouldn’t have come up otherwise, Philips says. “It helped us see clusters of thoughts and concepts and then, from that, find the kernel that was useful.”

BUILD, TEST, BUILD AGAIN
Once a team zooms in on a proposed solution, it’s time to prototype and test it. Prototyping — building a physical manifestation of your idea — is a form of thinking that involves the whole body, says Brandenburg. “It’s also about
Students watch their cohorts perform a skit during a design thinking workshop at Cornell Tech.

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— Nora Hansanugrum, MBA ’13, an independent project consultant in New York City

getting your ideas out there quickly. We say, ‘Fail fast and fail often.’ You take what’s in your imagination and hand it over to someone, but not like it’s something precious.”

The test elicits feedback, which the team incorporates into a new prototype, repeating the process as often as it takes to create a solution users love.

Happen and Hansanugrum experienced the power of iterative prototyping when their team on the JetBlue challenge proposed ways to make check-in time more fun for children. One of their ideas was a mascot — Jay, the JetBlue Blue Jay. To test this proposal, a team member donned an improvised blue jay costume and walked the terminal at John F. Kennedy International to solicit reactions.

“Parents were not shy about telling us they found the mascot a little creepy,” Happen says. “So we scrapped the mascot.”

Parents did like a second idea — a scavenger hunt to entertain their kids while adults attended to business — but not if it sent kids roaming through the terminal. “They needed something kids could do while sitting at the gate,” Happen says. The team quickly obliged with a revised game.

**TAking THE TOOLS TO Work**

The ultimate purpose of DT instruction at Cornell is to give students new tools for innovating — whether they apply those skills in a corporation, in a cultural institution, or in human services, says Brudzinski. “They leave with a deep understanding of how they can make this work for a variety of problems they might encounter in their professional lives.”

The instructors also hope DT training boosts students’ creative confidence.

“At the beginning of a class, many people come up to me and whisper, ‘I need to let you know up front that I’m not creative,’” Brandenburg says. Most of us reach adulthood believing there are things we just can’t do — paint a picture, write a song, or build a better mouse (as DT guru Kelley did for Apple in 1980). “Someone took that confidence away, and this is a place where I hope to restore it.”

Ultimately, Brandenburg and her fellow instructors hope that alumni of their courses will teach DT to others and take it to the organizations where they work. To that end, she recently started teaching an advanced course, where students who have already gone through the process learn to coach others.

“What’s really cool is that they’ll be able to put on their résumés that they know how to teach human-centered design or customer-focused innovation,” Brandenburg says.

Innovation is certainly not a fad, says Brandenburg: people have been doing it from time immemorial. If DT has become a hot ticket at Cornell, it’s because students who follow the work of companies like Google or Kelley’s firm, IDEO, realize how thrilling it is to work in that kind of environment, she says. “Everyone gets to be creative. Everyone gets to be a designer.”

Merrill Douglas is a freelance business journalist who enjoyed experiencing the high energy of a design thinking workshop while researching this story.