DESIGNING A MEASURE OF SUCCESS

Segal Design Institute's Pam Daniels cooks up an innovative design now sold at New York's Museum of Modern Art.

Daydreaming during a project management class in 2014, Pam Daniels (mpd² '15) started wondering why every size measuring cup had the same shape—a full circle instead of its corresponding dimension on a pie chart. Would it be possible to make them look like the shape they represented, so a half just looked like half? Where would the handles go if you did that?

Based on the skills she was learning from spending time in class and building things in the shop while pursuing a Master of Product Design and Development Management (mpd²) degree, the former advertising executive began exploring the possibilities: Could she actually make a half cup in the shape of a half circle, a quarter cup in the shape of a quarter circle, nest them, and keep them volumetrically accurate?

After initial rough sketches, Daniels jumped into CAD and modeled her designs. She then 3D printed them on a Makerbot—skills learned at the Segal Design Institute. Within a week, she had in hand a prototype to show her friends and fellow Segal students, including Brandon Williams ('13, EDI '14), whose viewpoint she trusted.

They all agreed—she was onto something.

Motivated by the positive feedback, Daniels refined the prototype and began a five-year, up-and-down journey accompanied by Williams and the Segal community to create the visually intuitive measuring cups now sold in New York's Museum of Modern Art Design Stores and catalog.

Born designer

As a child, Daniels explored creative design, building furniture and sewing clothes. One winter, she even created a backyard forest out of discarded Christmas trees.

"I'd been passionate about my creativity long before I knew there was a container for all the things I enjoy doing the most," she says. "That container is called design."

As an undergraduate at Tufts University, Daniels majored in French but spent time working on design projects, including making curtains for her dorm room. Even while serving as senior vice president of global operations for Starcom MediaVest Group/Leo Burnett, she designed and installed her own kitchen cabinets and earned certification in landscape design for fun.

Photography by Justin Barbin

Kid in a candy store

In 2013, Daniels stopped by the Ford Motor Company Engineering Design Center—and the visit changed her life.

"When I walked through the front doors and saw the lofted two-story machine shop, my jaw dropped. For me, it was a candy store," she says. Realizing that as a McCormick School of Engineering student she could play with all the tools in the Ford shop, she applied to the mpd² program.

"I knew Northwestern was not going to call and ask if I'd ever thought about applying to the program," she says. "I would have to have the audacity to apply and see if I could get in."

Indeed, Daniels did just that. She enrolled in the mpd² program as a part-time student that fall, honing her product design skills in classes while pursuing outside entrepreneurial projects. She embraced all Segal had to offer, even joining the bootcamp for the Master of Science in Engineering Design Innovation students to gain more hands-on experience.

"As a student, Pam brought such enthusiasm and creative ideas—she dedicated herself to becoming a well-rounded designer," says Greg Holderfield, Segal director and Pentair - D. Eugene and Bonnie L. Nugent Clinical Professor of Mechanical Engineering.

Walter Herbst, mpd² program director and clinical professor of mechanical engineering, guided her independent study projects, including flat-pack furniture and home storage design concepts. "She used the tools we teach in the mpd² program, which includes creating multiple mockups of user-centered research, to transform an everyday product into a delight," he says.

Move to the front of the class

After graduation, Daniels's career took an unexpected detour—teaching.

In 2015, she accepted a post at Segal as one of the first-ever design innovators in residence alongside classmate Williams, with whom she would cofound a design practice, Welcome Industries. Together, the team transformed a Ford conference room into Studio5, an open space where they showcased innovative design work while guiding students.

"We loved being a source of creativity and energy right outside the classrooms on the ground floor," she says.

Daniels, now a clinical associate professor, teaches classes ranging from user experience to digital fabrication techniques, human-centered design, and entrepreneurship. She also cotaught Design Thinking and Doing with Williams. A passionate learner, Daniels audited Williams's class on visual communications—skills that came in handy when designing the visual measuring cups' packaging.

Keeping the entrepreneurial spirit alive

With the Segal community's support, Daniels continued to develop the design. Williams helped with materials selection, polished 3D printed prototypes, and met with prospective manufacturing partners.

"We were committed to bringing the measuring cups to market," Daniels says. Williams had previously licensed a product. With the cups, however, they wanted to manage the entire process themselves, from patenting to manufacturing to marketing. "That way we could remain the decision makers on everything from the materials used to where it was manufactured."

Happy with their design, they decided to raise money through crowdfunding to support manufacturing in early 2018. More than 500 backers pledged a total of more than $22,000, yet the campaign ultimately fell short of its $65,000 goal.

Following their own advice to design students, Daniels and Williams used the setback to regroup. "We learned that a lot more setup was needed before launching the product," Williams says. "We didn't get the attention of the right people."

Determined, Daniels and her husband, Mark Daniels, decided to self-fund the tooling and start manufacturing. Their goal: to exhibit the visual measuring cups at the International Home + Housewares Show in Chicago in March 2019.

It worked: Welcome Industries was offered a spot in the Design Debut section for first-time exhibitors. In the three months before the housewares show, Daniels partnered with Chicago-based Janler Corporation, run by Northwestern alum Carol Klingler Ebel (KSM '88), to create the tooling and manufacture the measuring cups in time.

Show time

At the show, Daniels solicited feedback from buyers on topics ranging from the product design to the packaging, and the cups were recognized as one of the finalists for the 2019 IHA Global Innovation Awards. But the biggest thrill for Daniels was making a dream connection with representatives from the Museum of Modern Art in New York.

"I've gone to the MoMA store every trip I've taken to New York over the past 20 years," Daniels says. "I would land at LaGuardia Airport, look at my watch, and tell my cab driver, 'I have 45 minutes before the meeting, take me to the MoMA store.'"

MoMA was the first retail partner for the visual measuring cups and began selling them in its stores and catalog this fall. More than 2,000 units shipped in the first two months of production. By August 2019, Welcome Industries already had shipped the measuring cups to all 50 states and is now working to produce corresponding visual measuring spoons.

"It's been a marvelous journey. Northwestern has helped me be the person I want to be," she says. "It's helped me develop the skills and the relationships I needed to turn my ideas into reality."

ALEXANDRIA JACOBSON

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