

Special Report: Design Thinking

Venessa Wong

How best to educate the design thinkers and innovators of the future? BusinessWeek's list features promising programs from design and business schools from around the world.

How to nurture future leaders

Venessa Wong

Design thinking brings creative techniques to business. The only problem? No one can agree on how to teach its methods.

It's a scary time to be a new graduate. But some seem more optimistic than others.

Around the world, graduates are emerging from interdisciplinary master's programs that integrate design, technology, and business. These professionals are trained in "design thinking." Sure, it's the latest trendy term to sweep the business world, but it's a technique that designers and executives alike hope may help to provide a solution to some of the world's serious challenges.

The only problem? There's no consensus on how to teach it. And there's no agreement on where these thinkers should spring from. Should design schools create more business-focused creatives, or should business schools foster creative thinking in their MBAs? For now, both approaches to innovating education are rolling out, and both types of programs appear on the 2009 BusinessWeek D-school List.

Different programs, different results

As departments build on their unique strengths to formulate new programs, varied results have emerged. Some programs are co-taught by professors from design, business, and other departments, such as at Stanford's Hasso Plattner Institute of Design (d.school). Others, such as a partnership between three schools in Helsinki, bring together students from various universities for cross-disciplinary project work. Another approach: dual degrees in business administration and design, such as the MBA and Master's in Design program from Illinois Institute of Technology.

Despite the different approaches, the programs have a similar aim: to merge design, business, and technology. Professors urge students to value cross-disciplinary teamwork, to defy inclinations and shatter silos. The theory: Working across functions will offer fresh perspectives on perennial problems and generate more comprehensive and original results. The goal is to combine creative confidence and analytic ability, says David Kelley, founder of Stanford's d.school and design consultancy IDEO. "The best students are competent in both."

It's still early days, and the chasm between business and design yawns. Closer cooperation is necessary. Designers who exhibit business acumen can be involved at a more strategic level within a corporation. Executives who learn to apply design methods such as prototyping or brainstorming have a better shot at building a corporate culture that nurtures innovation—and the business' bottom line.

What to expect?

According to Roger Martin, dean of the Rotman School of Management at the University of Toronto and one of the early supporters of the discipline, "Every corporation needs a design-

thinking type." That includes industries that may seem like unlikely bedfellows for design, such as banks and law firms.

Visa (V) launched the Global Innovation Strategy Group in September 2008 to align corporate strategy with consumer needs. "As great as an MBA is, we were looking for something more," says Scott Sanchez, senior business leader for the group. Earlier in 2009, Sanchez hired Laura Jones, 27, a recent graduate from Stanford's d.school program.

And a number of corporations such as Procter & Gamble (PG), Samsung, and Steelcase (SCS) are beginning to integrate design thinking and its proponents across operations.

Harley-Davidson (HOG) has hired graduates from Northwestern University's joint MBA and Master's in Engineering Management program into its Leadership Development Program and gradually promoted them to all levels of management—from product development and marketing to finance and global manufacturing strategy, says Matt Levatich, president and chief operating officer.

Designer-led backlash

And yet, as design thinking moves to the front burner as an innovation tool of choice, questions remain about how its theories can slot into the framework of the business world. Jones is quick to detail that not all of her classmates have found jobs that call for design thinking. Not all corporations know what it is or how to apply it. "It is a work in progress," she says.

Some designers also balk at the concept, seeing it as a dilution of an industry and discipline they themselves have studied so hard and for so long. "If you teach design thinking, you're teaching talking: how to use words to describe design," says Dev Patnaik, founder and chief executive of San Mateo (Calif.)-based design and innovation consultancy Jump Associates. Patnaik says he looks to hire designers and then trains them in business skills as necessary.

Gadi Amit, founder of San Francisco-based NewDealDesign, also has reservations. "Some people think they graduate with industrial design plus capabilities," he says. Instead, he says, the graduates lack grounding. Nonetheless, Amit acknowledges things may yet evolve. "I am not precluding that maybe there will be a new type of designer, splitting the profession into all sorts of strands and directions, but we are not there yet."

At this stage, the true impact of design thinking has yet to be seen in industry, as classes are small and graduates are a mere drop in the ocean of global business. But educators, executives, and public officials around the world are investing in the potential of the technique to provide new insight and enhance innovation in a time that desperately needs both. We may not truly appreciate the fruits of these educational experiments for some time, but if effective, these graduates might just redefine the way the world does business.

World's Best Design Schools

Teaching Design Thinking



As the world's business landscape evolves, universities are attempting to keep up by fostering teaching that supports an interdisciplinary approach to solving problems. The following programs, offered at both business schools and design colleges (sometimes jointly by both), present a snapshot of the nascent movement to teach design thinking and innovation to a new generation of global corporate leaders. Schools are listed in alphabetical order.

Art Center College of Design/INSEAD

Pasadena, Calif./Fontainebleau, France or Singapore

Programs: Master's in Industrial Design (Art Center College of Design)/MBA (INSEAD)

Business Partnerships: Disney (DIS), Hewlett-Packard (HPQ), Motorola (MOT)

Why it's on the list: As part of an exchange program hosted at INSEAD, Art Center students can apply to take MBA courses for four months. INSEAD students can study with the design students in the eight-week Strategies for Product and Service Development elective, offered through the 10-month MBA program.

California College of the Arts

San Francisco, Calif.

Program: MBA in Design Strategy

Business Partnerships: Continuum, IDEO, Jump Associates

Why it's on the list: The Design MBA program, as it's known, launched in 2008. The two-year program has so far enrolled 48 students, all required to take courses in finance, management and leadership as well as more practical design-related skills. Both studio and academic classes emphasize hands-on learning.

Carnegie Mellon University

Pittsburgh, Pa.

Program: Masters in Product Development

Business Partnerships: Ford (F), Navistar International Truck (NAV), New Balance

Why it's on the list: The program is a collaboration between Carnegie Mellon's School of Design, Department of Mechanical Engineering, and the Tepper School of Business. During the one-year program, engineers, industrial designers, and marketers refine their areas of expertise, are given insight into each others' disciplines—and learn how to work together.

Case Western Reserve University

Cleveland, Ohio

Program: MBA

Business Partnerships: Fed Ex Custom Critical, PNC Bank (PNC), Sherwin-Williams (SHW)

Why it's on the list: As part of the Weatherhead School of Management's "Manage by Designing" initiative, launched in 2002, the MBA curriculum now requires all students to take a two-semester course in either "Managing Design Opportunities" or in "Sustainable Value." They must also study week-long courses on topics such as systems thinking, and are taught hands-on skills such as sketching and prototyping.

Chiba University

Chiba, Japan

Program: Master's in Service & Product Design

Business Partnerships: Denso (DNZOY), Fujitsu (FJTSY), Hitachi (HIT)

Why it's on the list: Students in this "practice-based" program, started in 2007, take four studio-work programs and do two design projects with partner companies such as those listed above. The courses, taught in Japanese and English, focus on project management, product development and design engineering.

China Central Academy of Fine Arts

Beijing, China

Program: Master's in Design Management

Business Partnerships: Adobe (ADBE), Chinese government institutions, Gehua Cultural Development Group

Why it's on the list: The Chinese-language program, started in 2004, aims to cultivate professionals who understand design's role as both art and business builder. Students can opt for a variety of courses such as the one educating them on how to develop appropriate, design-centric strategies for China's own market.

Cranfield University/University of the Arts London

Cranfield, U.K., London, U.K.

Program: Master's in Design in Innovation and Creativity in Industry

Business Partnerships: Ford (F), Procter & Gamble (PG), Xerox (XRX)

Why it's on the list: In 2008, this program began to integrate design, management, and engineering. Students learn managing at the Cranfield School of Management, technology at

the Cranfield School of Applied Sciences and study consumer behavior at the Centre for Competitive Creative Design (a joint venture between the two schools).

Delft University of Technology

Delft, the Netherlands

Program: Master's in Strategic Product Design

Business Partnerships: BMW (BMWG.DE), Procter & Gamble (PG), Unilever (UL)

Why it's on the list: This master's degree trains students to use market analysis, consumer and behavior research, trends, government policy and new technologies to help companies define a strategic direction when developing new products.

Domus Academy

Milan, Italy

Program: Master's in Business Design

Business Partnerships: 3M (MMM), BTicino

Why it's on the list: The English-language program is structured to be a laboratory for designers, managers, and entrepreneurs. The curriculum aims to create a new managerial class for design-oriented companies and new businesses, with graduates trained to combine design thinking, management skills, and a self-starter attitude.

Helsinki School of Economics/University of Art and Design Helsinki/Helsinki University of Technology

Helsinki, Finland

Program: International Design Business Management

Business Partnerships: Kone (KNEBV), Nokia (NOK), Panasonic (PC)

Why it's on the list: The IDBM minor studies program, started in 1995, represents 20 to 40 credits and allows students to take courses at the other participating schools. (120 credits are required for a master's degree.) In addition, business, engineering, and design students work in multidisciplinary teams to learn how to manage international design-intensive businesses, operations, and product development. They also work on a year-long project with a sponsor company.

Hong Kong Polytechnic University

Hong Kong, China

Program: Master's in Design (Design Strategies)

Business Partnerships: Philips (PHG), Microsoft (MSFT), Reebok China

Why it's on the list: The program, started in 2004, hones strategic thinking skills and methods. There are about 20 full-time and 30 part-time students, who are mostly professional designers, entrepreneurs, and those interested in using design to develop business and to translate technology into compelling experiences.

Illinois Institute of Technology

Chicago, Ill.

Program: Dual degree Master of Design and MBA

Business Partnerships: McDonald's (MCD), Target (TGT), Toyota (TM)

Why it's on the list: IIT launched the two-year program in 2006 to offer two distinct degrees that tackle innovation. The design master's is overseen by the Institute of Design, and focuses on the link between strategy and human-centered innovation. The MBA, administered by IIT's Stuart School of Business, teaches a traditional AACSB-accredited business curriculum.

Imperial College/Design London

London, U.K.

Program: MBA, Executive MBA, Weekend Executive MBA

Business Partnerships: BAE Systems, Hewlett-Packard (HPQ), Procter & Gamble (PG)

All MBA students at Imperial College Business School are required to take the Innovation, Entrepreneurship and Design (IED) course at Design London, a joint venture between Imperial College and the Royal College of Art. Teams work on real-world business and design problems. The course results in the final presentation of a business case or feasibility study developed for a new technology, idea, or business need.

Korea Advanced Institute of Science and Technology

Daejeon, Korea

Program: Master's in Industrial Design

Business Partnerships: LG, Nokia (NOK), Johnson & Johnson (JNJ)

Why it's on the list: The master's program, set up in 1991, focuses on human-centered design, technology convergence, and business innovation. Students take courses in design marketing and design management to understand wider corporate issues and also learn how to use design as a strategic tool.

National Institute of Design

Ahmedabad, India

Program: Strategic Design Management post-graduate degree

Business Partnerships: Autodesk (ADSK), Hewlett-Packard (HPQ), Sun Microsystems (JAVA)

Why it's on the list: The two-year program, taught in English, trains graduates to help companies understand consumer needs. The first semester focuses on teaching practical design skills, the second on business and management, the third on creating a business design proposal, and the final semester on working with sponsors on a specific project.

Northwestern University

Evanston, Ill.

Program: Master's in Product Development

Business Partnerships: Harley Davidson (HOG), Northrop Grumman (NOC), Motorola (MOT)

Why it's on the list: The part-time, two-year program at the McCormick School of Engineering & Applied Science is targeted at working professionals. They meet one day per week to take 21 classes looking at product development. Class themes include the management of creativity and design, design strategy, customer-focused innovation, and financial issues.

Northwestern University

Evanston, Ill.

Program: Dual degree MBA and Master's in Engineering Management (MMM)

Business Partnerships: Abbott Laboratories (ABT), Google (GOOG), John Deere (DE)

Why it's on the list: In 2007, the two-year program, run jointly by the Kellogg School of Management and the McCormick School of Engineering and Applied Science, introduced a design focus. MMM students are required to take courses in design, which is considered integral to every part of the business cycle. The program aims to produce managers, general managers, and CEOs who understand products from concept through execution.

Pontifícia Universidade Católica do Paraná

Paraná, Brazil

Program: MBA* Emotional Design

Business Partnerships: Electrolux Brazil, Volvo Brazil, Whirlpool do Brazil

Why it's on the list: This Portuguese-language MBA started in 2008 in partnership with Electrolux. The program is offered mainly to employees of partner companies and includes 365 hours of classes. It aims to teach executives about another, softer side of business. Course titles include "Cognition and Emotion in Design."

*This MBA is a postgraduate degree, not a master's. The two are distinguished in Brazil.

Pratt Institute

New York, N.Y.

Program: Master's of Professional Studies in Design Management

Business Partnerships: Anna Sova Luxury Organics, Grameen Bank, Korea Institute of Design Promotion

Why it's on the list: The two-year program, launched in 1995, develops skills such as leadership, team building, strategy, finance, marketing, and operations for graduates looking to manage design firms or design teams. Courses focus on the role design can play to build a well-grounded, sustainable business.

Royal College of Art/Imperial College London

London, U.K.

Program: Dual degree Innovation Design Engineering

Business Partnerships: Bank of America (BAC), Sony (SNE), Unilever (UL)

Why it's on the list: In two years, students receive two master's degrees in industrial design engineering: an MA from RCA as well as an MSc and diploma from Imperial College London. The program features a concentration called "Design Enterprise," covering issues such as raising finance, marketing, designing service and support infrastructures, project management, and production/supplier relationships.

Savannah College of Art and Design

Savannah, Ga.

Program: Master's in Design Management

Business Partnerships: Coca-Cola (KO), Dell (DELL), Newell Rubbermaid (NWL)

Why it's on the list: Started in 2007, this program builds design thinking into strategy, planning, and management. Coursework and projects include topics such as visualization, design development, and how to build collaborative corporate cultures. Students learn to work across business functions to integrate design thinking into strategy, planning and management.

School of Visual Arts

New York, N.Y.

Program: MFA Designer As Author

Business Partnerships: Adobe (ADBE), Iilly Cafe, Target (TGT)

Why it's on the list: The program, also called MFA Design, started in 1998 and focuses on entrepreneurship and visual art. Students, who generally already have creative backgrounds, learn contract law, intellectual property, business planning, pitch, and presentation. Their thesis requires them to come up with a concept that addresses a real need, and then to produce and market it.

Shih Chien University

Taipei, Taiwan

Program: Master's in Industrial Design

Business Partnerships: Acer, HTC, Lenovo Mobile Communications

Why it's on the list: The masters, launched in 1998, has about 80 students and uses a studio-based curriculum that integrates humanities, social sciences, technology, and engineering. Students assess case studies of design management in action and learn about leadership and how to market design within business through workshops and seminars.

Stanford University

Stanford, Calif.

Program: Joint Program in Design

Business Partnerships: Electronic Arts (ERTS), Visa (V), Wal-Mart (WMT)

Why it's on the list: The Hasso Plattner Institute of Design, or d.school, as it's known, was founded in 2003. It is a multidisciplinary program that accepts students from across Stanford

University, including graduate students, into the joint program in design. About 350 students enroll each year and learn to use design methods to collaborate and solve problems. Every class is taught by at least two instructors and many also have coaches from industry to offer a range of perspectives.

Suffolk University

Boston, Mass.

Program: Executive MBA with concentration in Innovation & Design Management

Business Partnerships: Design Management Institute

Why it's on the list: Sawyer Business School launched this 21-month, Saturday-only program in 2006. The courses aim to give professionals from many different fields the skills needed to manage design and innovation at the project and strategic level. The innovation and design management concentration represents six of 20 total classes. Regular EMBA classes cover organizational skills, decision-making, and understanding the marketplace.

Umeå University

Umeå, Sweden

Programs: Master's in Industrial Design

Business Partnerships: Ericsson (ERIC), Nokia (NOK), and Electrolux (ELUXY)

Why it's on the list: The two-year program at the Institute of Design, taught in English, offers concentrations in Interaction Design, Advanced Product Design, or Transportation Design. Students also work together to learn different approaches to problem solving. Business classes are not mandatory but the school does run projects with supporting corporate partners to offer hands-on, real world experience.

University of California Berkeley

Berkeley, Calif.

Program: MBA

Business Partnerships: Cheskin Research, Fitch, Smart Design

Why it's on the list: MBA courses bring together students from Haas School of Business with those from Berkeley's College of Engineering and the California College of the Arts' Industrial Design program. Haas, which enrolls about 240 full-time students every fall, regularly offers courses that use design theory and methods as a tool for building a better business.

University of Cincinnati

Cincinnati, Ohio

Program: Master's in Design

Business Partnerships: Citi (C), General Mills (GIS), Procter & Gamble (PG)

Why it's on the list: With mandatory classes in strategy and research methods, students can also take electives in science, engineering, business, and anthropology. They also participate in the Live Well Collaborative, which operates in the university's Center for Design Research &

Innovation, to do research and corporate projects that focus on the needs of America's aging population.

University of Gothenburg

Gothenburg, Sweden

Program: Master's in Business & Design

Business Partnerships: Puma, Volvo (VOLVB)

Why it's on the list: The two-year master's is a partnership between HDK School of Design and Crafts and the School of Business, Economics and Law at Gothenburg University. The program, started in 2008, is targeted at professionals interested in using the design process to build smarter businesses. About half of the courses integrate the two disciplines of design and business, covering topics such as strategy and legal issues.

University of Toronto

Toronto, Ontario, Canada

Program: MBA

Business Partnerships: Medtronic (MDT), Nestle (NSRGF), Pfizer (PFIZ)

Why it's on the list: The 260-plus MBA students at the Rotman School of Management can elect to take courses at DesignWorks, the school's academic and commercial learning lab for design-based innovation and education. In addition to core MBA classes such as finance and leadership, students can take classes on building an innovation culture and strategic business design.

How business is adopting Design Thinking

Venessa Wong

At GE, P&G, and other companies, a design perspective is a problem-solving apparatus that can be applied companywide .

When the best and brightest managers from GE (GE) attend the company's Crotonville learning center in Ossining, N.Y., for the Technical Leadership Development Course, they start by reading a comic book. For many of the handpicked participants, this is their first, uncomfortable encounter with design. They're stretched further over the two-week training as they're asked to describe their toughest problem in a haiku and draw workflow and patient experience maps.

For Lawrence Murphy, the chief engineer of global design for GE Healthcare who leads the sessions and helped start the program, the goal is to equip employees with new problem-solving tools to help the company evolve to "imagination at work" from its focus on operations efficiency tool Six Sigma.

Managers looking to build design thinking throughout the organization can learn valuable lessons from pioneers such as GE Healthcare, Procter & Gamble (PG), and Philips Electronics (PHG). In addition to hiring design thinkers from schools, they have developed in-house programs to bring people—from all functions of the organization—to think through this lens.

Discomfort is good

Elevating design has boosted innovation and the bottom line at companies like GE. According a 2003 report by the Danish Design Center, increasing design activity such as design-related employee training boosted a company's revenue on average by 40% more than other companies over a five-year period. But the transition can prove difficult, and trying to convince experienced managers of the value of design-led innovation can lead to dead ends.

"We warn them that they'll be uncomfortable," says Peter Coughlan, who co-leads the transformation practice at design consultancy IDEO. "I tell clients you won't understand it until you experience it." Changing a company's culture can take years, he says, but the quickest route is to get managers to think about themselves as designers of their own organizations, which will help build support at all levels.

The trick, says Cynthia Tripp, marketing director for global design at P&G: "Don't turn it into an education program. Turn it into a problem-solving machine." Tripp has worked for the company for 21 years and approaches her own work with the same attitude. "Design education is not what we've been doing," she says. "I am trying to grow the business."

P&G operates offsite design thinking workshops that bring together employees from across the consumer-products giant, including R&D, market research, and purchasing, to use design methods such as visualization and prototyping to solve real problems for the company. The workshops, run around the world by volunteer employees called facilitators, last anywhere from a half-day to a week.

The program began in 2005 as part of former Chief Executive A.G. Lafley's Design Thinking Initiative, launched in 2001, and was led by Claudia Kotchka, former vice-president for design innovation and strategy. Although Kotchka retired last spring and Robert A. McDonald took over as CEO on July 1, company executives say that P&G plans to conduct more workshops and build design thinking into more activities.

Beating their criteria

In the past year, the number of facilitators grew to 175 from 100 and design thinking has started to spread organically, Tripp says. P&G offices in Latin America, Europe, and Asia are also starting workshops.

P&G measures the performance of design-thinking inspired ideas and products, says Tripp. In those terms, "We're beating our success criteria. Quantitative measures show we're doing very well."

Robert Schwartz, formerly associate director of P&G's Global Design Organization, is bringing some of this knowledge to GE Healthcare, where he has been general manager of global design for the past two years.

To nudge employees to use these creative skills, Schwartz says, GE measures and rewards them not only on what they achieved but also how they achieved it, based on "growth traits" such as clear thinking, inclusiveness, and imagination. When these traits become used more widely, "the results in the marketplace are remarkable."

The focus on design-led innovation helped Philips Lighting to transform itself over the past decade from a company that simply pushed products into the market into one that designs them with customer desires in mind, says CEO Rudy Provoost. His business, for example, is no longer just about light bulbs, but about designing ambience for consumers. Provoost says the

company hopes to provide the bulbs and software to enable consumers to be their own lighting designers.

To support this culture, the company created the role of chief design officer, now held by Philips Design CEO Stefano Marzano, to participate in strategy discussions. Also, Philips Design employees lead workshops that involve case studies and project work about "high design," the company's term for its product development process, which integrates design into other functions such as marketing and technology and focuses on the end user. "We employ disciplines as diverse as psychology, cultural sociology, anthropology, and trend research, in addition to the more conventional design-related skills," says Heleen Engelen, Philips Design's senior design director for lighting.

Certainly, design thinking is not the only mechanism these corporations use to achieve growth. But for now, says GE's Schwartz, "if there's a box of crayons, we're a favorite color."

Seoul stakes a claim on design

Seoul's Chief Design Officer, Kyung-won Chung, talks about his "Designomics" strategy for the city and South Korea.

As global educators attempt to define the best way to teach the world's future executives, designers, and innovators, the mayor of Seoul has sponsored an ambitious project to strengthen South Korea's national design industry.

Design Seoul Headquarters (DSH) was launched in 2007 to make design a central part of future businesses. The 100-person organization is overseen by Kyung-won Chung, the city's deputy Mayor and Chief Design Officer, who is also a professor in the industrial design department at the Korea Advanced Institute of Science and Technology. He says the improvement of design education is critical to his mission, as new graduates provide the foundation on which the city's future prosperity can be built.

Chung, 59, recently spoke to BusinessWeek's Venessa Wong about the challenges of building a national design education system. He also explained his "Designomics" strategy for Seoul and South Korea. An edited version of the conversation follows.

How does design education in South Korea stack up against other countries in Asia and the West?

The reality is that many institutions still conduct low-quality, technique-based training in design. These institutions lack unique programs, qualified and experienced faculty, well-equipped facilities, an open educational environment, and flexible budgets. This all contributes to poor design education that does not meet international standards. Students graduating from those institutions experience many difficulties with employment. Also, the number of design majors outnumbers the limited spaces for employment.

How can you change this?

To improve design education, universities need to develop and facilitate unique, specialized curricula. Moreover, they need to recruit educators from advanced design nations. The globalization of design education is a major issue. Those institutions that do not conform to this change will be forced out naturally.

To what extent has industry in Seoul embraced design and design thinking?

Top managers of leading corporations in various industries are striving to use design strategically. Corporations such as Samsung Electronics, LG Electronics, Hyundai Kia Automotive Group, and Amore Pacific are providing educational programs in design management for top executives. Several professors, including me, along with executives at design companies, are employed as lecturers to teach how to implement design thinking in business.

Kumho Asiana Group [an industrial conglomerate based in Seoul] opened a two-day design management outreach program in 2006 to educate vice-chairmen and top executives on new understandings about design, design management, corporate identity, and personal identity. The outreach program expanded to senior managers in 2007 and to managers in 2008 to improve the standard of customer service through design thinking.

What is the South Korean's government's approach to design?

"Designomics" is Seoul's new catchphrase. It means expanding the economic role of design to cope with the current depression.

And what does Designomics actually entail?

Mayor Oh announced a comprehensive budget plan of about \$100 million for the next three years to improve the design capabilities of small to midsize enterprises. The budget will be spent on building various infrastructures to provide design services, from custom-made design information to the re-education of mid-career designers working in companies or design consulting firms. Seoul has also initiated various design projects to help the poor, the disabled, and the elderly in order to narrow down the social gap.

How will the city government get involved?

There will be a low-interest loan program for businesses that produce highly competitive design products with the latest technologies. Also, we are trying to establish a networking system for design consultancies and freelancers who introduce designs with great potential, linking them to corporations with proper production resources. We will implement an incubating system to provide talented young designers with temporary studios and seed money for necessary equipment and operation.

Twenty-one people who will change business

Venessa Wong and Tania Chen

Recent D-School Grads

Graduates of interdisciplinary design programs are putting their skills to work as innovation consultants, researchers, and corporate strategists. Here are 21 design thinkers out to change the world.



Renna Al-Yassini

Age: 29

Program: Master of Design, Communication Planning & Information Design, Carnegie Mellon University, Pittsburgh ('09)

Current Job: Independent design consultant, Pittsburgh

Partnering with CMU Qatar, the Donald H. Jones Center for Entrepreneurship at the Tepper School of Business, and other organizations, Al-Yassini hopes by 2013 to launch the Roudha Center, an entrepreneurship and innovation initiative aimed at providing support for Qatar's businesswomen. She is working with Shareefa Fadhel (left) and Aysha Al-Mudehki (right) to establish the center.



David Aycan

Age: 32

Program: MBA, Rotman School of Business, University of Toronto ('05)

Current Job: Senior business designer and program leader, IDEO, San Francisco

As one of about 18 business designers at IDEO, Aycan takes common tools such as financial modeling or marketing frameworks and uses them to inform design. He has led and worked on many IT and social media projects, identifying new customer needs and developing them for clients including HP (HPQ), ConAgra (CAG), and Renault (RENA.PA). Another responsibility: sharing new ways of applying business thinking to design with the business community.



Manuel Bronstein

Age: 34

Program: MBA, Haas School of Business, University of California at Berkeley ('03)

Current Job: Director, social interactive entertainment, Xbox Live, Microsoft, Redmond, Wash.

Bronstein leads strategy and business for video and music initiatives (for the likes of Netflix (NFLX), Last.fm, and Zune Marketplace) and applications (such as Facebook and Twitter) for Microsoft's (MSFT) gaming platform, Xbox Live. He is also handling the development of a live game show and working on new categories that combine social and interactive entertainment.



Eunice Chong

Program: Master's in Design, Hong Kong Polytechnic University, Hong Kong ('07)

Current Job: Creative director, Carrot Associates, Hong Kong

Chong owns a small design agency that provides brand strategy consulting, art direction, and graphic design to clients including Langham Place Shopping Mall and fashion brands such as Password and collec+point. Whereas many of her neighboring firms take care of design jobs outsourced from the West, Chong says she is looking to "lead the way for innovative design in Hong Kong."



Quinn Chow

Age: 33

Program: Master's in Industrial Design, Art Center College of Design, Pasadena, Calif. ('07)

Current Job: Strategic design consultant, Second Road, Chatswood, Australia

Chow uses design thinking methods to help clients with strategy, product development, and execution. Currently, Chow is working with a multinational mining company to focus the various arms of its business on developing a unified long-term strategy around developing cities.



Ré Dubhthaigh

Age: 30

Program: Master's in Interaction Design, Royal College of Art, London ('04)

Current Job: Director, Radarstation, London

In 2004, Dubhthaigh and RCA classmate Toke Barter started Radarstation to help companies develop business and innovation strategies by way of design. Its client list includes Sony (SNE), Hitachi, and the BBC.



Chris Finlay

Age: 31

Program: MBA/Master's in Design, Illinois Institute of Technology, Chicago ('08)

Current Job: Design director, Student Experience Lab, Business Innovation Factory, Providence, R.I.

Finlay runs the Student Experience Lab at the Business Innovation Factory, a nonprofit looking to solve systemic problems in industries from education to energy. Using design research methods such as ethnography, Finlay and his team of five people assess the experience of students seeking college education. The aim is to uncover opportunities to improve that experience—and the undergraduate education system at large.



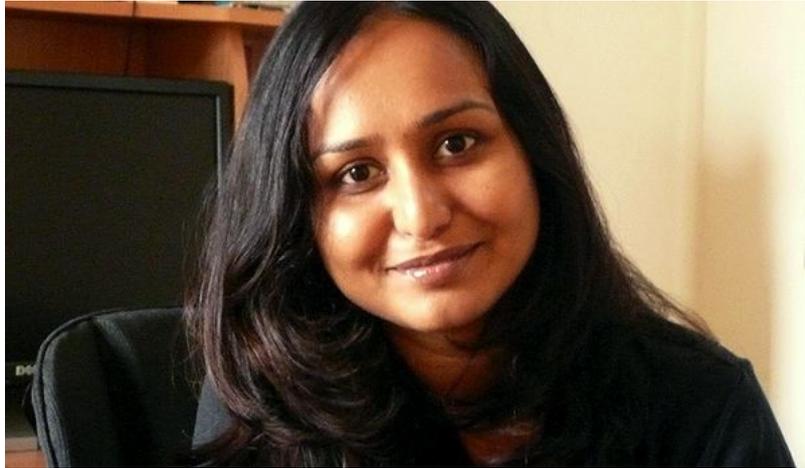
Merv Garretson

Age: 37

Program: Master's in Design Management, Pratt Institute, New York ('09)

Current Job: Art director, Condé Nast, New York

Garretson joined Condé Nast in 2005 as a magazine art director. Now he works on the business side of the company, developing the mobile and social media strategies of titles such as Modern Bride, Elegant Bride, and Your Prom.



Elizabeth John

Age: 30

Program: Master's in Industrial Design, National Institute of Design, Ahmedabad, India ('05)

Current Job: Senior design researcher, Samsung, National Capital Region, India

Samsung tasked John with figuring out what consumers might want in the Indian subcontinent. Using design thinking techniques, her research focuses on identifying consumers' unarticulated needs and analyzing their aesthetic and lifestyle choices to inform future product design.



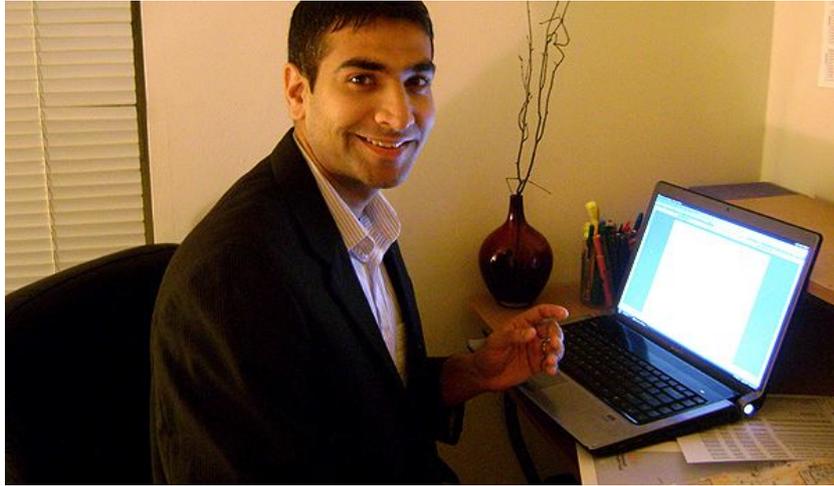
Laura Jones

Age: 27

Program: MBA, Stanford University, Stanford, Calif. ('09)

Current Job: Manager, global innovation strategy group, Visa, Foster City, Calif.

Interested in pursuing both creative and analytic thinking, Jones applied to study for an MBA at Stanford to access the d.school. In August 2009, she joined Visa (V) to work on the company's innovation initiatives.



GauRav Khanna

Age: 31

Program: Master's in Design Management, Pratt Institute, New York ('04)

Current Job: Director of design, development, and real estate, Le Pain Quotidien, New York

Khanna assists in selecting real estate for this global chain of Belgian restaurants and retail stores by considering the design and business implications of each individual space. He also manages the design and development process of the stores, has standardized the company's design specs, and introduced green specifications such as the use of recycled materials wherever possible.



Li Yen Khoo

Program: Master's in Business Design, Domus Academy, Milan, Italy ('08)

Current Job: Assistant manager, DesignSingapore Council, Singapore

Trained as an illustrator and graphic designer, Khoo now works on project management at DesignSingapore Council, which runs initiatives such as Design2050 Studios, a project challenging international designers to come up with their visions of how the world might look in 2050.



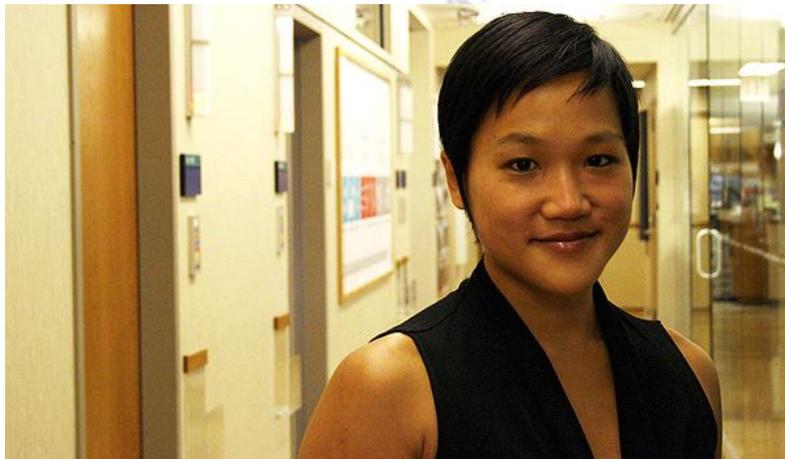
Terho Lahtinen

Age: 39

Program: Master of Science in Technology with a minor in International Design Business Management (IDBM), Helsinki University of Technology, Helsinki, Finland ('97)

Current Job: Category manager, Suunto, Vantaa, Finland

Having refined his business, technical, and design management skills at the IDBM graduate program, Lahtinen now oversees the heart rate monitor product line at the Finnish precision instrument company Suunto.



Caroline Lu

Age: 32

Program: Master's in Design, California College of the Arts, San Francisco ('08)

Current Job: Designer/researcher, SPARC Design Studio, Mayo Clinic, Rochester, Minn.

Lu works at the Center for Innovation, a department within the Mayo Clinic that looks to improve the patient experience by developing better services for health-care delivery. Using her background as a graphic designer and design thinker—along with her own experience surviving cancer—she applies personal insight and design-driven techniques to come up with new ideas.



Khalid Mansour

Age: 31

Program: Master's in Business Design, Domus Academy, Milan, Italy ('07)

Current Job: Senior brand consultant, Multinational Telecom (MTN), Khartoum, Sudan

Sudan's branch of the South African-based company Multinational Telecom is currently testing phones and rechargeable payment cards designed for women and families displaced by the country's troubles. Working with internal teams and external consultants, Mansour takes the designs to test them in rural regions, researching the needs of target groups and modifying the design of the devices on the fly.



Bobby Martin

Age: 32

Program: MFA Design, School of Visual Arts, New York ('03)

Current Job: Senior design manager, visual communications lead of global packaging, Nokia, London

Martin is working on Nokia's (NOK) environmental efforts, developing the visual and graphic elements for sustainable packaging solutions. His latest challenge: to use packaging design to increase the brand's appeal in emerging markets in Africa, Asia, and the Middle East.



Sam Miller

Age: 46

Program: Master's in Product Development, Northwestern University, Evanston, Ill. ('06)

Current Job: Vice-president of strategy and marketing, JFNew, Walkerton, Ind.

Miller heads the innovation and strategic planning and marketing division of JFNew, an eco-consulting firm with 100 employees, mostly scientists. Describing himself as a "coach to the CEO," Miller provides advice and insight on how clients can develop sustainability efforts. He also teaches a course in strategic foresight at the University of Notre Dame.



Woosung Park

Age: 26

Program: Master's in Industrial Design, KAIST, Daejeon, South Korea ('09)

Current Job: Associate, Boston Consulting Group, Seoul, South Korea

After graduating with a BS in industrial design from KAIST in 2005, Park worked for a design firm for two years. He then returned to KAIST to develop the analytical skills he now uses at the global consultancy BCG, where he does market and consumer analysis.



Brandon Schauer

Age: 37

Program: Dual-degree MBA and Master's in Design, Illinois Institute of Technology, Chicago ('05)

Current Job: Experience design director, Adaptive Path, San Francisco

As experience design director at the design and consulting firm Adaptive Path, Schauer helps clients to analyze customer service experience to improve retention and build a company's bottom line. Particularly focused on building online experiences, Schauer has worked with clients including Skype, Flickr, and Ameriprise Financial (AMP).



Catherine Sun

Age: 37

Program: Master's in Product Development, Carnegie Mellon University, Pittsburgh ('05)

Current Job: Principal designer, Frog Design, San Francisco

After graduating from CMU, Sun worked with New Balance, joining Frog Design in 2007. She specializes in going beyond the focus group, heading out to collect product experiences from the real world. She distills the feedback into practical ways that clients can improve their products, and has worked with companies such as Gendex, Sierra Wireless, and Disney (DIS).



Dan Winger

Age: 29

Program: Master's in Industrial Design, Art Center College of Design, Pasadena, Calif. ('07)

Current Job: Design & strategy consultant, LEGO Concept Lab, Los Angeles

Working rather like a traditional R&D team, the Concept Lab develops new business opportunities for LEGO. Winger's responsibilities include working directly with children to brainstorm new ideas, issuing trend reports, and directing product development. Currently, his work focuses on creating product lines for boys ages 5 to 11, including ideas for a major release in 2011.

China's new focus on design

Beijing wants to produce a new wave of designers who can help China move beyond a manufacturing economy.

China has caught up to the U.S. and Western Europe in great swaths of the economy. Yet China's schools lag Western counterparts in teaching "design thinking," or taking the problem-solving process designers use to create products and applying it to the greater tasks of running a business. Many schools still teach design within the framework of fine arts, without a significant nod toward business or other disciplines.

Now the central government is developing a design policy to help China move beyond a manufacturing economy and forward in implementing cross-disciplinary education and bridging left- and right-brained thinking. As in other sectors, schools are beginning to train a new wave of design managers "with Chinese characteristics" who can apply design thinking in a context that fits China's commercial and political landscape.

"With almost a million students studying design in universities, design education is a national issue," says Wang Min, dean of the school of design at China's Central Academy of Fine Arts (CAFA) in Beijing. "Most people don't really know what design can do for them." Min, who was formerly the design director for the Beijing 2008 Olympic Games, adds. "In many places, we still need to promote design and design thinking."

Changing course

CAFA is overseen by the Ministry of Education, the central government body that regulates state school curriculum. Since 2004, it has offered a Master's in Design Management and Wang says CAFA is considering forming a partnership with a business school to develop an MBA with a design curriculum. Tsinghua University in Beijing has been working with schools and design organizations around the world to explore innovation, design and management—themes of this year's Tsinghua International Design Management Symposium.

In south-central China, Hunan University is focusing on research-based design with a focus on human-centered design and design strategy. Also since 2004, Hong Kong Polytechnic University (HKPU) has offered a master's in design (Design Strategies) that integrates design, business and technology.

Shanghai's Tongji University, one of China's top technical schools, tapped experts from schools around the world, including HKPU and IIT, to advise on the launch of the new College of Design & Innovation, which opened in May. The college, which replaces the Art & Design Dept. under the College of Architecture & Urban Planning, hopes to foster innovation in China through design research, design management and education, and will focus on international, interdisciplinary cooperation.

Looking for respect

Lorraine Justice, head of HKPU's design school and member of the advisory group to Tongji's new college, says the school will offer a research-based program. The university also founded the Tongji-KIC Design Innovation Center in Shanghai to encourage collaboration between industry and academic institutions. "Design education in Tongji is transferring from Bauhaus to D school" and will be more international, inter-disciplinary, and innovative, pledges Lou Yongqi, a professor and deputy head of the new college.

Based on experiences in the developed world, however, the transition might not be quick or easy. Even today in the U.S., "the fact that most design programs are in art schools is problematic," says John Rousseau, design director at brand design firm Hornall Anderson. Because many schools have focused on the craft of design, with little interaction with business, communications, and computer science, he says, design graduates often are ill-prepared to collaborate with other professionals.

As China's economy continues to shift from its manufacturing roots, experts hope that design can become a respected industry in its own right. In Beijing, the creative industry, which includes disciplines such as art and architecture, tourism, and sports, grew by 18%, to \$106 billion in 2007, according to local media reports. Wang says better statistics about the value of the design sector in China are difficult to come by, but he says, "We also need this number to promote the design industry."

Field still in its infancy

Business is doing its part, too. In 2002, Carnegie Mellon graduate Elaine Ann founded Kaizor Innovation, an innovation consultancy in Hong Kong. Kaizor has worked with the Hong Kong and Huizhou governments and quasi-government entities such as the Hong Kong Design Center, Hong Kong Productivity Council, and Hong Kong Science & Technology Park to teach design thinking and "human-centered design"—a methodology that bases design around the needs and habits of the end user—to business executives and government officials.

Ann has also seen a small number of first-tier, up-and-coming Chinese companies, including Lenovo, Baidu (BIDU), Alibaba, Huawei, Changhong, and BuBuGao, starting to establish user experience design teams, which focus on how people interact with a product or service, and

are doing user research overseas. But because designers have varied levels of training and experience and many come from other disciplines, she says, the field is still in its infancy, like the U.S. was 10 to 20 years ago. "Many are stuck at how to convince management to incorporate such methodologies into the entire operation," she says.

In recent years, Ying Zhang, frog Design's general manager for Asia, has seen design and education begin to open up to new approaches. Recently, frog Shanghai has received more requests from both large and small Chinese companies for help with product innovation.

Mandate for change

Still, Zhang says, most Chinese firms continue to function as design outsourcers, supplementing clients' teams rather than providing innovative strategy. For now, frog does not face much competition from local companies, but they "are growing fast, so we are always very cautious about things to [maintain] our status," says Zhang. As exports decrease and labor costs rise, "most companies in China have realized, especially over the past year, that they must begin changing the original manufacture-oriented model to survive."

Chinese design schools and shops still may be behind, but China has shown, particularly when the central government gets involved, that it can learn quickly.

WONG, Venessa. Special Report: Design Thinking. **BusinessWeek**, New York, Sept. 30th 2009. Disponível em: <www.businessweek.com>. Acesso em: 2 out. 2009.

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