



LMU | LA

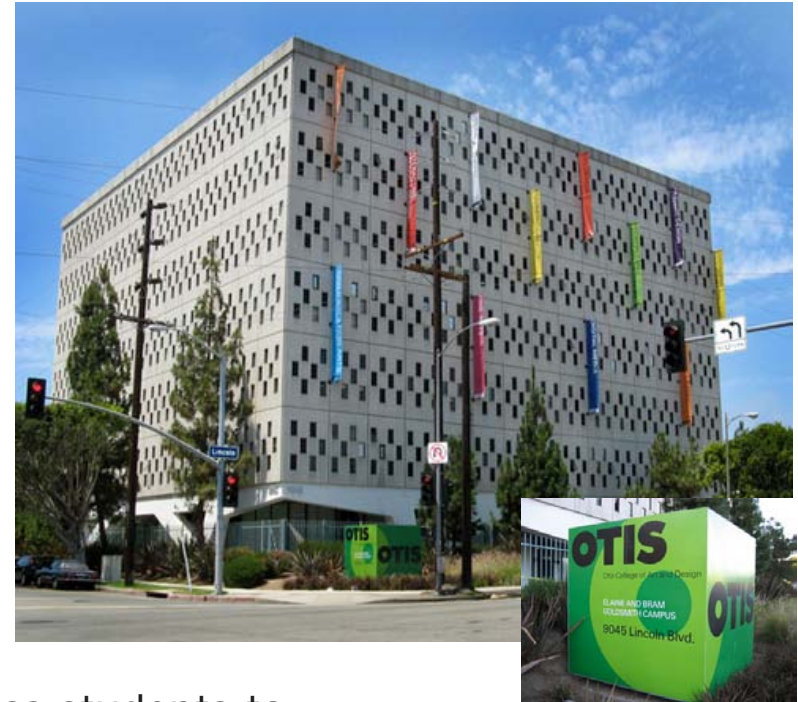
Entrepreneurship

**BRINGING CREATIVITY AND DESIGN CAPABILITY
INTO AN ENTREPRENEURSHIP COURSE**



A JOINT COURSE in New Venture Creation

"Business Design" & "New Product and Business Design"



Original (naïve) idea was to help our business students to:

- (1) Develop innovative ideas
- (2) See their ideas develop into something tangible
- (3) Learn a little about design
- (4) Work effectively in an interdisciplinary team



FACULTY MEMBERS

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SURPRISING FINDINGS

- Wow, it's really hard to work with students of different disciplines.
- Design faculty members are really good at frameworks for analyzing observations and generating ideas.
- Design students are really good at coming up with creative **solutions** to business problems, even though they know little about business.
- Unlike them, Business professors and students are poorly prepared for creative thinking.

**No Wonder Businesses Lack Creativity –
We Don't Do a Good Job Teaching Business Students!**



DESIGN THINKING– A HOT TOPIC!

- Tim Brown, “Design Thinking”, *Harvard Business Review*, June 2008.
- Sarah Beckman and Michael Barry, “Innovation as a Learning Process: Embedding Design Thinking,” *California Management Review*, Jun 01, 2008. Winner of Accenture Award.
- Roger L. Martin, The Design of Business: Why Design Thinking Is the Next Competitive Advantage, *Harvard Business School Press*, 2009.
- *The Academy of Management’s* MED Best Symposium in Management Education and Development Award (2010) was a symposium on teaching Design Thinking.

Many in academia are recognizing the benefit of Design Thinking

EXAMPLE 1: BOTTLED WATER PROBLEM (1)



Breast Cancer	18%	increase, 1975-2003
Prostate Cancer	85%	increase, 1975-2002
Impaired Fertility	20%	increase, 1995-2002
Polycystic Ovarian Disease	5-10%	of US women of reproductive age
Insulin Resistance	20%	of all Americans
Recurrent Miscarriage	1%	of all couples trying to conceive



Wasteful of Natural Resources

- 1.5 Billion Oil Barrels/Year for Water Bottles (United States)

Expensive

- \$15 Billion Water Bottle Industry in United States (2007)
- Average \$1 per bottle

Toxic Materials

- Bisphenol A (BPA)
- Lab tests on 10 brands of bottled water detected **38 chemicals** including
 - bacteria
 - caffeine
 - pain reliever acetaminophen
 - + + +

Pollutant

- Producing 1 kilogram of PET plastic results in **air emissions** of
 - 40 grams of **hydrocarbons**
 - 25 grams of **sulfur oxides**
 - 18 grams of **carbon monoxide**
 - 20 grams of **nitrogen oxides**
 - 2.3 kilograms of **carbon dioxide**

Bottled Water Creates Incredible Waste

EXAMPLE 1: BOTTLED WATER PROBLEM (2)

Public Drinking Fountain



Unsanitary



Lack of
Maintenance



Lost Public



No Filters or
One Stage
Only

Instead of developing a different bottle, why not reduce the need for them?

EXAMPLE 1: BOTTLED WATER PROBLEM (3)

Trublu Indoor Drinking Fountain

Transparency

Filtered

Hygiene (sensor)

Appealing (no drain)

Refilling station (bottle)

Service



trublu uno



trublu duo



trublu trio



EXAMPLE 1: BOTTLED WATER PROBLEM (4)

Exploded View



Entire Unit



Filtration System



EXAMPLE 1: BOTTLED WATER PROBLEM (5)

Prototype





EXAMPLE 2: New Generation Mobility Scooter (1)

Reinventing the Mobility Scooter Industry



Problems
maneuverability
fixed seating position
physical boundary
non-innovative
lack of features
outdated style

Depressing, no personality, and not easy to socialize with people.

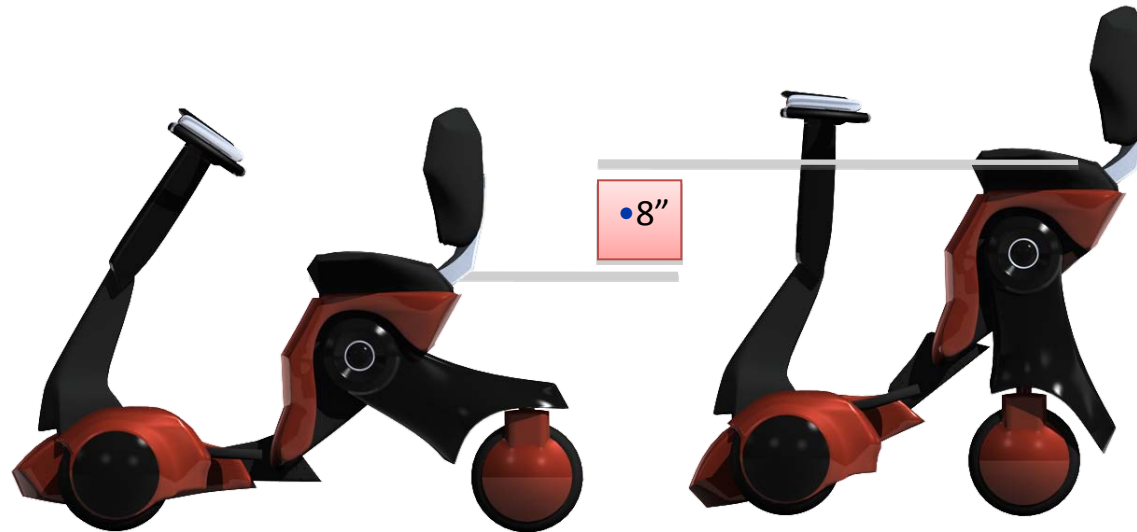


EXAMPLE 2: New Generation Mobility Scooter (2)





EXAMPLE 2: New Generation Mobility Scooter (3)

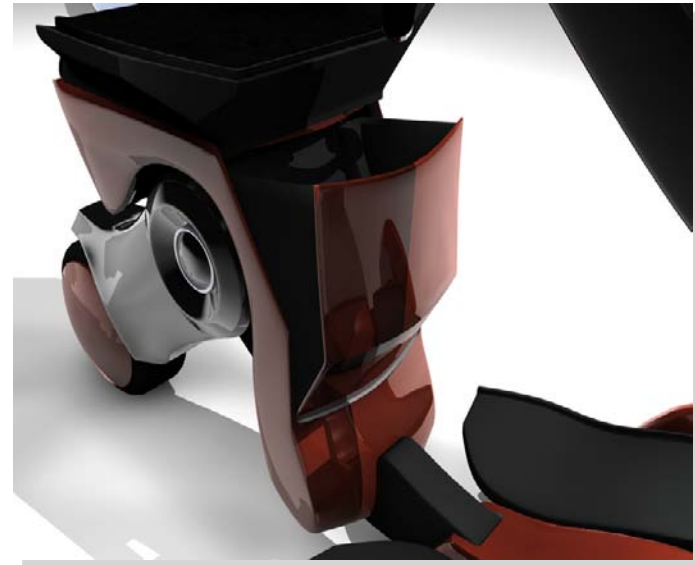
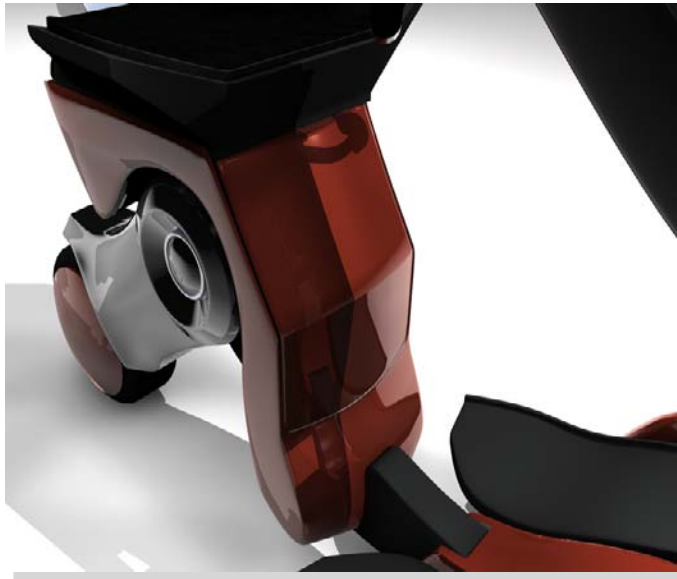


The height adjustment makes a huge difference in being able to communicate with people



EXAMPLE 2: New Generation Mobility Scooter (4)

Storage compartments



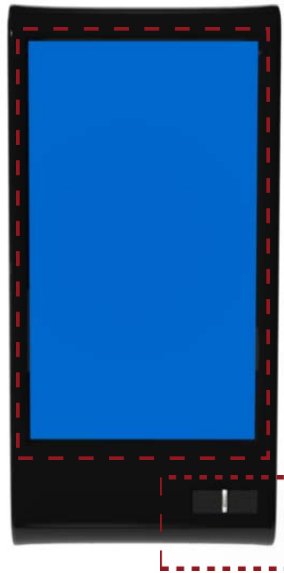
Protects valuables from bad weather and from movement



EXAMPLE 2 New Generation Mobility Scooter (5)

Remote access allows users to easily move Scooter

Touch Screen



Finger Print lock



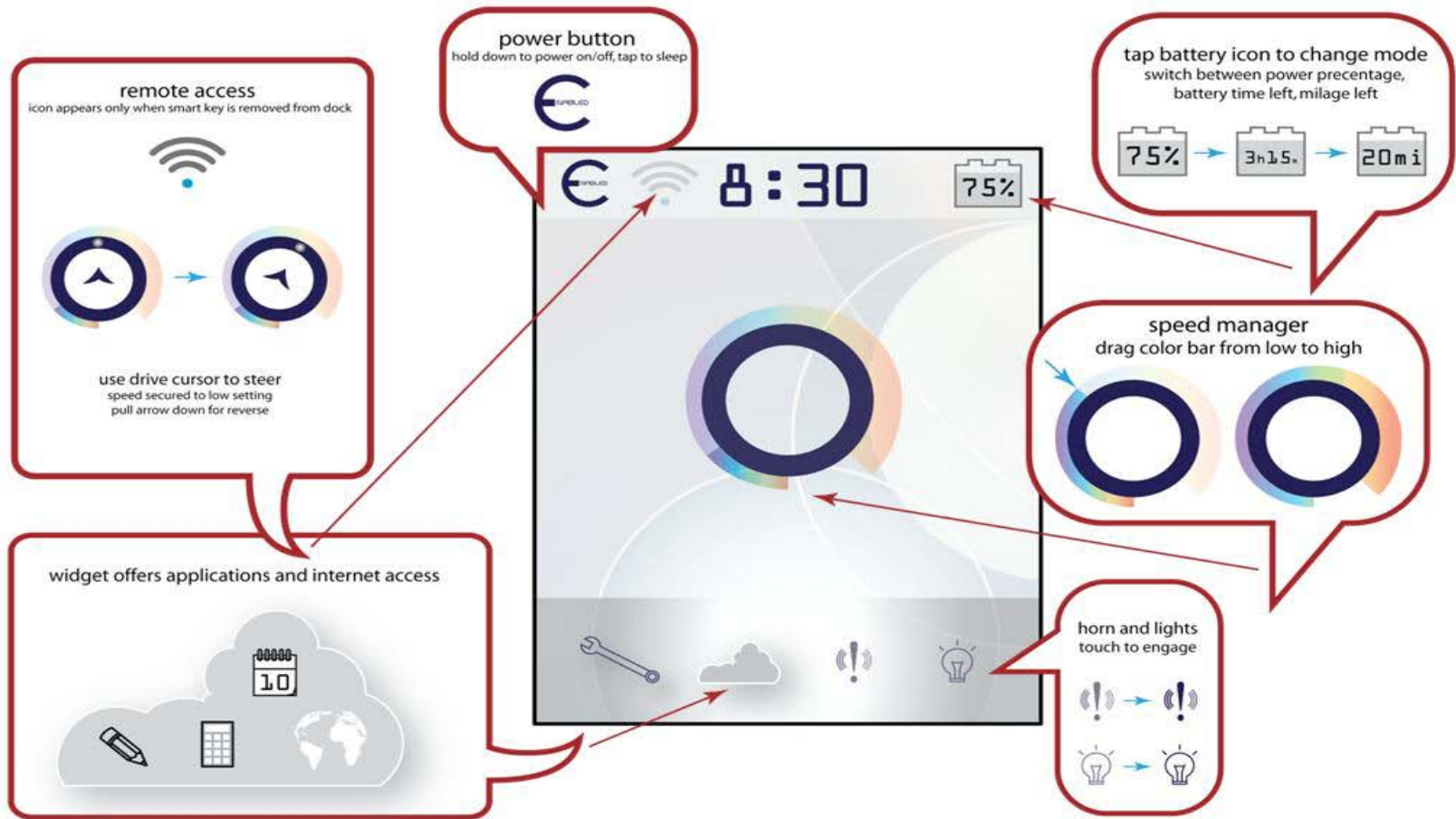
Bring electronics to 21st century (like everyone else)



EXAMPLE 2

New Generation Mobility Scooter (6)

Interface





INNOVATION THROUGH DESIGN? (1)

- A common misconception: Design is primarily a visual discipline about making products or advertising campaigns more appealing.
 - “**Design is not about making beautiful things, but making things work beautifully**” (Martin, 2009).
- **Problem solving discipline:** “What is the problem we are solving?”
 - **UPSTREAM ANALYSIS** (asking WHY? WHY? WHY?)
- Design is also a **discipline** that deals with **constraints**.
 - Business professionals take standard business practice as given starting point.
 - The design trains students to reexamine all given constraints, and to **differentiate the real constraints from the artificial** (removable or self-imposed) ones.



INNOVATION THROUGH DESIGN? (2)

- Refreshing **attitudinal difference – to be learned.**
 - Anyone can concoct brand new business ideas never invented before. Thus, no benchmarking or copying of competitors need.
 - Radical innovations can happen on a daily basis.
- True commitment to understanding the **User Experience**
 - More than “market research”
 - Long observation, emotions, interaction with other products
- **Systems Thinking** to maximize benefit
 - How a product is made, delivered, interacts with people – the entire ecosystem

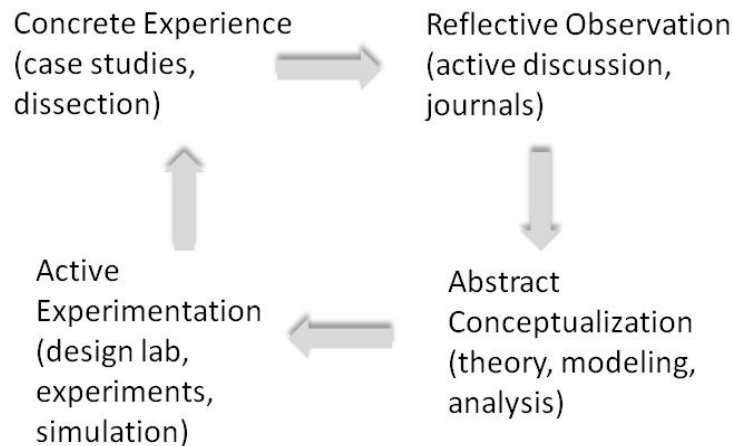
The Rigor and Attitude Allow For Superb Creativity & Innovation



INSTRUCTIONAL APPROACH (1)

One semester-long course implemented the following pedagogical approaches to enhance creativity and provide a truly collaborative atmosphere.

- Fundamentally, a **project-based learning pedagogy** that builds on the Kolb model of **experiential learning**.



- Encourages **conceptualization and self reflection**.
 - Our students are asked to reflect on their experiences each week.
 - Moreover, the class gets together **after the final presentation** to reflect on their experience and learning.



INSTRUCTIONAL APPROACH (2)

One semester-long course implemented the following pedagogical approaches to enhance creativity and provide a truly collaborative atmosphere.

● ***The Ice-Breaker:***

- Make sure that the two groups started under the best circumstances.

● ***Introduction to Each Other's Discipline.***

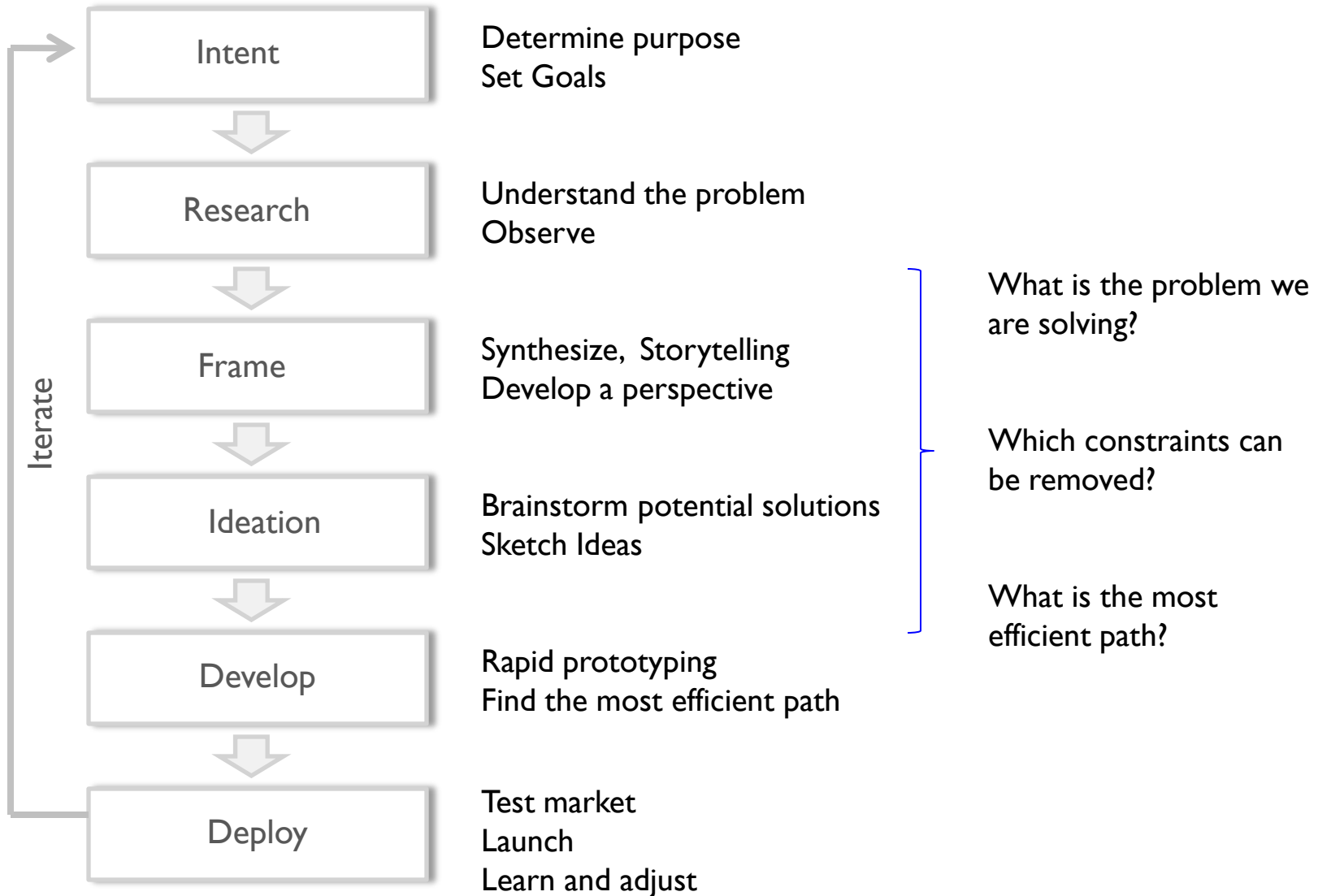
- 4-5 lectures (each for about 2 hours) introducing students to the other group's disciplines to better appreciate each other.
- Location: Classes were held on both campuses.

● ***Coaching, Not Lecturing.***

- The instructors met separately and/or together with student teams and advised on how they could improve on their projects.



BUSINESS DESIGN PROCESS





COMPARISON OF NEW VENTURE DEVELOPMENT APPROACHES

	Conventional Approach	Design Approach
Analysis	<p>Quantitative Data</p> <p>Analyze constraints</p> <p>Deductive & inductive analysis</p> <p>“Proof”</p> <p>Market Research (superficial)</p>	<p>Quantitative and Qualitative</p> <p>Analyze and challenges constraints</p> <p>Balance between Analysis and Creativity and “abductive”</p> <p>“Logical leap of mind”</p> <p>Committed to understanding the user experience</p>
Ideation	<p>Limited tools and experience</p> <p>Process encourages coming to agreement quickly</p>	<p>Many tools and experienced in ideation exercises.</p> <p>Encourages diversity of thought and open to tension</p>



COMPARISON OF NEW VENTURE DEVELOPMENT APPROACHES

	Conventional Approach	Design Approach
Strategic Options	Tends to examine a manageable number of feasible options.	Open to exploring a wide range of feasible and infeasible ideas (at least in the beginning).
Participants	Senior management	A wide collection of senior and junior executives (including someone trained in design)
Timing	Once a quarter or once a year	Continuous and/or as needed
Desired Outcome	Detailed business plan	Prototype and Experimentation



Indications of Success: Innovative Ideas

- The ideas conceived and developed by students in this class were quite different from those developed in most of my and my colleagues' classes.
- The most common comments by our panelists and judges were:
 - **"These ideas are completely different from other Entrepreneurship courses'"**
 - **"Business students couldn't have come up with these ideas on their own."**



Indications of Success: Student Satisfaction

- Students found the class super-demanding.
- Some of the business student comments received have included:
 - ▶ "It's been nice getting to see the other side of product development."
 - ▶ "This class taught me that there are lots of different issues that you must struggle with in the real world... "
 - ▶ There's a different side to business that I'd never encountered before but when you ... create an actual working product. It's incredibly rewarding."
 - ▶ I learned to approach idea development with much more rigor in a much more systematic way."



Indications of Success: Client Satisfaction

- A coffee company (\$100M in revenue) offered 2 projects to our students.
 - ▶ The client was so happy with the outcome that they invited our student teams to present to their board of directors.
- Founders of Revolution Foods has asked our students to present their ideas for better nutrition in K-12 schools.
- A technology company (\$100M in revenue) also provided a project and wants to develop a long term relationship.



INTERNAL RECOGNITION: SCHOOL WEBSITE

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http://www.lmu.edu/

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ABOUT LMU
mission, history, diversity, jobs

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areas of study, colleges + schools

ADMISSION
applications, deadlines, financial aid


ATHLETICS
NCAA teams, scores, tickets

LIBRARIES + RESEARCH
collections, centers + institutes

LOYOLA LAW
preeminent legal education

STUDENT LIFE
get involved, housing, careers, recreation


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Lions Team with Otis Peers on Unique Project

About a year ago, Professor David Choi (right) wondered what would happen if he combined LMU entrepreneurship students and students from neighboring OTIS College of Art and Design. His idea resulted in the New Product Design and Development course, which aimed to expose students from both colleges to other disciplines and help them develop better products.

[READ MORE >](#)



NEWSROOM

Los Angeles Writers and the City They Write About

The Buzz

- ▶ James Goodrich '72 Honored in the Seaver College Wall of Fame
- ▶ LMU Alumna Gabriella Gomez Nominated for Dept. of Education Post
- ▶ Senior Jeremy Flores' Documentary Takes Him to Big Sky Film Festival


[MORE NEWS >](#)

Event Calendar

▶ Athletics: Men's Baseball, Apr. 3-5 »

ACADEMIC EXCELLENCE

Seaver Faculty Member Joins National Panel on Diversity





TRANSFERABILITY TO OTHER SCHOOLS

Our general approach is easily transferable to other Entrepreneurship programs.

- Most universities have a Art or Design program on campus that Entrepreneurship classes can leverage.
- Schools can also work with Design colleges off-campus, e.g., UCLA MBA and Insead's MBA program (France) with Pasadena Art Center.
- Note: We did not create one class for two different colleges. We just merged two classes that happened to be at the same time.
- We kept the class very low profile, while we experimented with the first class. Our Deans eventually learned about the course when it was featured in the university alumni magazine and on our main school website.

Any School that Follows Our Approach Will Likely Extract Equally Innovative Ideas from Their Students.



CONCLUSION

- We are happy to share that we have been successful in enhancing the creativity of our class through:
 - Partnering with Otis College of Design
 - Integrating Design Thinking systematically
 - Building a collaborative work environment

- Other schools/programs could benefit from some of our experiences and likely improve upon them.

Overheard BEFORE:

"I don't want some suit taking over my design work."

"No crazy artist is going to threaten my bottom line."

"This is really gonna suck."

Overheard AFTER:

"That LMU student helped me launch my first product."

"That Otis student really taught me how to innovate."

"Best. Class. Ever."

Loyola Marymount
University →

Otis College
of →
Art & Design

