How to Design a Modern Entrepreneurship & Innovation Center
What we have collectively learned in the past 10 years

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Technology Entrepreneurship: E-Centers have now become mainstream institutions at most leading universities:

MIT, Stanford, Berkeley, Illinois, Michigan, Many others...
Globally: Tsinghua IIT Cambridge, ETH, Many others..
Entrepreneurship Centers: Why in Universities? What they offer?

Why:
- Engineering education has changed.
- Multi-disciplinary skills for students
- Bridge: Alumni, Industry, Students, Research
- Showcase value from students and research

Common components:
- Teaching
- Network Building
- Incubation, Mentoring, Funding
- Research in Pedagogy and Innovation Process
Some contextual factors that we have observed over the past 10 years?
Context 1: Multiple Stakeholders

Multiple Stakeholders:
- Students, Faculty, Administration, Alumni, Industry, Community, Investors.
Each wants something different.
Context 2: Multiple Measures

Multiple measures:
- Must serve large numbers of students (most go to innovate in large firms)
- Create new ventures (a few require advising time)
- Can not take too much time away from primary field of study
- Requires integration with academic life and yet bridge to real world

Mass Scale

Focus on a Few
Technology Entrepreneurship Curriculum is not simply business school for engineers and scientists:

- Basic Theories + Practice + Innovation Culture/Psychology
- Required role models and awareness of opportunities.
- The Ecosystem must include existing larger firms, not only investors and entrepreneurs.
- Curriculum should be a “journey” that transforms the student in skill and mindset.
Example of a Curriculum Journey
Minimum Time, Integrated, Multiple Opportunities

A Newton Innovator Lecture Series + Berkeley Method Bootcamp

Industry Path
Berkeley Method Approved Courses

New Venture Path
SkyDeck, Vlab, Mentoring

Successful Alumni Innovating in Industry
Successful Alumni Innovating in New Ventures

Awareness / Theory, Theory / Practice, Practice / E-Mindset
Why we do it this way?

1. Only 4 days for BME Bootcamp: E-Awareness for larger numbers of students

2. Newton Lecture Series: Role models and awareness larger numbers of students

3. Integration and scale: Suggested experiential classes from all departments


5. Real Training for New Venture Development in Venture Lab: For the few that choose that path

What is the Ecosystem

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New Venture Path

SkyDeck

Vlab Mentoring

Successful Alumni Innovating in Industry

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CET Berkeley
What is the Ecosystem

Executive Advisory and Operating Boards

A Newton Innovator Lecture Series

+ Berkeley Method Bootcamp

Industry Path

Berkeley Method Approved Courses

SkyDeck

New Venture Path

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Successful Alumni Innovating in Industry

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CET | Berkeley
What is the Ecosystem

Executive Advisory and Operating Boards

Entrepreneurs, Executives, and Investors who speak in classes or mentor student projects.

Engagement: Instructor Maintained Networks, and College Relations

Successful Alumni Innovating in Industry

Industry Path

Successful Alumni Innovating in New Ventures

SkyDeck

Venture Path

Vlab

Mentoring
What is the Ecosystem

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Successful Alumni Innovating in Industry

High Powered Mentors, Angel and Professional Investors, & Incubators.

Engagement Example: Venture Mentors
What is the Ecosystem

Executive Advisory and Operating Boards

Entrepreneurs, Executives, and Investors who speak in classes or mentor student projects.

Engagement: Instructor Maintained Networks, and College Relations

Larger Firms interested in recruiting students, professional development, and innovation.

Engagement: ELPP, Mentors

High Powered Mentors, Angel and Professional Investors, & Incubators.

Engagement Example: Venture Mentors
Ecosystem: Program View at Berkeley

Executive Advisory and Operating Boards

In Courses

CET
Center for Entrepreneurship & Technology
Distinguished Innovator Lecture Series

Successful Alumni Innovating in New Ventures

Ecosystem Innovator Lecture Series

Executive Advisory and Operating Boards

Industry

SkyDeck Berkeley

Venture

CET Berkeley

Approved Courses

A Newton Innovator Lecture Series

Berkeley Method

Bootcamp

SkyDeck

Vlab

Mentoring

Successful Alumni Innovating in Industry

Industry Path

New Venture Path
Innovation Ecosystem Framework at Berkeley

UC Berkeley

Recruit Effective Students
Influence Translational Research
Mentors
Investors
Mentors
Generate New Ventures
Recruit Effective Students

SV Venture Community

SV Industry Base

Acquisitions Incubation Spin Outs
Innovation Ecosystem Framework in General

Academics: E-Curriculum Incubation Research Projects

- Recruit Effective Students
- Mentors
- Investors
- Generate New Ventures

Exec and Professional Program for Industry Base

- Influence Translational Research
- Mentors
- Acquisitions Incubation Spin Outs
- SV Venture Community

Recruit Effective Students

CET Berkeley
How to Develop (or Improve) Entrepreneurship and Innovation of Programs
Step 1: It All Starts with a Board

- Without a well connected board, you can not create a bridge outside of traditional academics

- Executive Advisory (Connections)
  - Highest level possible, heavy hitters: Their advice must matter
  - Well connected: Can bring leaders to the campus and classroom
  - Diverse: Must represent industry, investment, education, and entrepreneurs
  - 1 to 2 meetings per year and off-line communication

- Operating Advisory Boards (Active Program Support):
  - Must care about the programs and will spend time.
  - 1-2 meetings per year, but more regular communication
Step 2: Develop or Refine an Entrepreneurship and Innovation Lecture Series

• Lecture Series Design:
  o Target: 7 per semester
  o Impact large number of students

• The purpose of the lecture:
  o Inspire students that they can be entrepreneurs and innovators
  o Aware what is it means to be an entrepreneur and innovator
  o Students find role models
  o Learn life lessons and understand areas of new opportunities

• The formula of the lecture:
  o Nominations and introductions from board
  o Pre-lecture call to set expectation
  o Formula:
    • Speaker Background (how did you get here)
    • Where are the new opportunities you see coming or Career Advice
    • Life learning lessons from mistakes or successes
Step 3: Bootcamp Design

- Entrepreneurship in theory is not difficult. Doing it is harder than understanding it.

- Goal Minimum Viable Program, Maximum Effect
  - Typically 3-4 days
  - Can be used for ideation, team formation, awareness, or acceleration

- Topics to Cover:
  - Opportunity recognition (spaces, value creation, Translation from one model to a second space)
  - Learning cycles, milestone plan adaptation, induction, adaption of business model,
  - Lean Management: testing, agile, planning vs doing, forcing functions
  - Team formation, diversity.
  - Stakeholder development, financing, and funding
  - Mindset of an entrepreneur and psychology of customers
  - Pitching, selling, and story-telling
  - Making connections to mentors, advisors, customers, and possible investors.
Step 4: Adding Experiential Courses

• The entire campus is a resources for lab and project oriented courses.

• At Berkeley, we create or look for course that fit the BME Model (ie have subsets of the following):
  o Entrepreneurship cases and theory
  o Exercises to promote innovation culture (see BMoE paper)
  o Offer real world projects and real problems
  o Offer connections to a larger industry and innovation ecosystem

• BMoE: teach the teacher training can be helpful
  o for faculty to understand how to improve their own courses
  o for faculty to know what other resources on or off campus exist
Step 5: Consider Adding Challenge Lab Course Models.

Challenge Lab Design Principles:

- Industry or Societal Challenge with a prize and sponsor
- Instructor creates environment. Students interact with problem.
- External speakers provide industry or social context
- Teams compete, may be cut by judges.
- Lectures may cover presentation and E-ship topics.
- See paper at CET.
Step 6: Develop a Venture Lab, Mentoring, and/or other Incubation Model

Venture Lab:
- Asynchronous admission
- Offer space, mentoring, and collaboration with other teams
- Choose teams based on people not just idea
- 3 month milestone targets
- 6-8 High Level Operating Board Mentors – Power Network
- Prize and event at end of each year.
- See Venture Lab Operating Guide at CET

SkyDeck:
- For more refined ventures / acceleration
- 6 Month Program
- Graduate to off-campus or other start-up accelerator
Acceleration: Milestone based planning and course correction

1. Assess what do you have right now?
2. Work backwards from your end in mind?
3. Set your target -.
4. What are the Assumptions: Performance, validation, sales cycle. (ie what will you learn?)
5. Execute relevant tasks to learn while building business.
6. Repeat for next milestone. Be prepared to adjust target.
Step 7: Develop Models for Larger Firm Engagement

- How Exec programs can offer new pathways for current students
  
  o ELPP is an alternative to an MBA for technical leaders in top firms such as Google, Yahoo, VMware, Applied Materials, Cisco, NetApp, Samsung, …

  o ELPP participates may also:
    • Mentor
    • Hire students
    • Be guests in our classes
    • Become customers for our start-ups
    • Propose projects for challenge lab and other faculty projects
Step 8: Programs for Research-Driven Entrepreneurship

Programs that support research-based commercialization must be developed differently:

- Light E-training: only for awareness and judgment only
- Focus on “Next Step” and connections with Ecosystem, not business training.

Creativity Driven: Story First, Technology and Skills will follow.

Research Driven: Technology Expert may be Advisor (and not participant) to Team of students and mentors.
Translational Topics: may include deep technology, systems, management, and/or policy

Innovation Process Research and Best practice sharing, see Global Venture Lab Report

Challenges and Projects from off-campus that leverage the research base and students, but also allow directional changes.
Creating an Innovative Culture

- Inductive Learning
- Learn While Doing + Cases Studies
- Diversity = Value

Industry and Social Challenges

- Testing with Real World Goals
- Cultural Rules for Entrepreneurs
- Games + Exercises

Students interact directly with problems
About Us: UC Berkeley Center for Entrepreneurship & Technology

At a Glance Metrics

• 1000+ students enrolled annually
• 8-10 courses per semester
• 50+ Venture Lab entries per year
• 100+ technical/experiential projects per year
• 20+ high-profile distinguished speakers per year with 1MM+ video reach
• 10+ startups spin out of CET courses
• 4,000+ member network
• 20+ Global Partner Institutions

Some Companies incubated by CET

Mixbook: http://www.mixbook.com/
inDinero: https://indinero.com/
Imprint Energy: http://www.imprintenergy.com/
QVSense: (acquired)
We Make It Safer: http://wemakeitsafer.com/
Magoosh http://magoosh.com/
Mobile Works: https://www.mobileworks.com/
ReTargeter: http://retargeter.com/products
CellAsic: http://www.cellasic.com/
Thirst: http://www.thirst.com
Dash Robotics: http://dashrobotics.com/
AdsNative: http://www.adsnative.com/
Outline: http://outline.com/
Twindom/Dreambox: http://web.twindom.com/
Flowbit: http://www.flowbit.org/
Eko: http://ekodevices.com/
http://skydeck.berkeley.edu/teams/
At UC Berkeley: CET brings leaders, innovators & Silicon Valley know-how into the classroom

Charlie Giancarlo, former Chief Product Officer, Cisco
Michael Marks, KKR, former CEO, Flextronics
Jerry Fiddler, Founder, CEO Windriver within Intel
Charles Huang, Co-Founder Guitar Hero Franchise
Sabeer Bhatia, CEO and Founder, Hotmail
Steve Blank, Epiphany, MIPS, Berkeley, Stanford
Shomit Ghose, Venture Partner, Onset Ventures
Marc Andreesen, Founder, Netscape, Andreeson Horowitz (A16Z)
Larry Baer, COO, San Francisco Giants
Jim Davidson, Managing Director, Silverlake Partners
In Sik Rhee, co-founder and CEO, Opsware
Rick Hill, CEO, Novellus Systems
Brodie Keast, EVP, TiVo
Jeff Miller, CEO, Documentum
Peter Thiel, co-founder and CEO, PayPal
Stephanie DiMarco, co-founder and CEO, Advent Software
Pehong Cheng, CEO, Broadvision
CET is well-known for creating the “Berkeley Method of Entrepreneurship”

Student Created New Ventures.

Successful Alumni in Innovative Larger Firms

Connections to Bay Area Angels, VCs, and Customers

Inspiring Projects for students to impact the world