Team-Based Entrepreneurship Programs
- Jose Antonio Lerosa de Siqueira, Brazil

The Enterpreneurial Program capitalizes on the need for resources:
• one in particular is the energy of the students

A definition of Team Based Entrepreneurship in education:
• participants must be flexible and adapt in different roles
• must understand the “complimentary” skills and share
• integration of people
• Centralized Decisions – Youth confuse democracy with lack of hierarchy
• Need Moving Leadership
  o In his program leadership position lasts 1 month
  o Program is 12 months long → potential for 12 leaders
• Understand that roles change over time
• Formal Hierarchy
• Observers or executives (no middle ground)
  o Observers → can bring outside lessons
• Peer Reviews serve to:
  o Exchange opinions + create corporation + reliance

With each “Generation”/ project there are 3 cycling phases:
  1. Planning: who is responsible for which deliverables, with which constraints in resources.
  2. Execution: Go for it!
  3. Analysis/Reflection: What happened?

The program draws “effective participation” from its students.
• Training is CMM level 2: it is a disciplined process, but not a repeatable one
  o Don’t standardize! ≠ entrepreneurship
  o Double focus with priority depending on results.

Pitfalls:
• Bureaucracy- let anyone delegate authority @ anytime.
  o His teams employ a simple document to document “delegated” work…like a work order???

Role Playing Game:
• The program uses role-plays to build leadership and other related entrepreneurial skills:
  o Role-plays include: weapons experiences, vulnerabilities & weaknesses as well as personal and group goals.

The UML Model: System based on RPG program
• Tasks, requirements, skills, experiences

“Main Questions”
• Which roles to define?
• How to Manage it?
• How to make it self-sustaining

Key Process
• Strategic Planning
  o Leader
  o Staff
Ant (simply follows orders) “a doer without question” *

- Evaluation
  - Judge
  - Auditor

* the “Ant” sparked significant dialogue:
  - How important is the “ant” to the process?
    - Crucial, “someone must carry the piano” there is a need for obeyers and executors to help the visionaries.
  - What type of validation has this had?
    - Validated in project experiences in Brazil
    - It doesn’t work if “everybody wants to be incharge”

Specifics about the TBE program:
- Engineering Undergraduates 2nd-5th year
- A for credit sequence
- Students pay $300 per Year $30-$40/month

Need to warrant a self evaluating system:
- What to do with failures:
  - Digest
  - Communicate openly: let them know

Skills tend to disappear if not trained
Failures tend to increase if not worked upons
A system to control the rules, the enterprisers and the ventures is available.

Why is it successful:
- Culture of the Country
- Needs of the Country
- Express interest in showing it to other leaders

? Questions?
- How do you measure the success of the program
  - We have no funding “and we are alive”
  - Lived the last 12 months on 10k
  - Students pay to participate

- Why make the students pay:
  - If you don’t pay you don’t focus/commit

Goals:
1) To create 3 Co. per year and we already have more than 4

**CLINICAL MODEL TO PROMOTE ENTREPRENEURSHIP TO ENGINEERS**
- Mark Weaver and Anthony Marchese, Rowan University
“Desire to promote Entrepreneurship throughout the University.”
- “what would and entrepreneurial dance student do?”

Program Structure:
- Project Based Learning
- Use a “clinic sequence”
- 8 semester Multidisciplinary Model
  - get your hands dirty every semester
  - all must work outside of their discipline
- Host “job fairs” to recruit team members
- Hold boot-camps for the non-business majors
- Have an Undergraduate V.C. Fund

Entrepreneurship and Innovation is offered as GenEd
- Team based and open to Juniors and Seniors

“THINK WHY NOT?”
The school itself was founded by an entrepreneur: Henry Rowan → founded the engineering program.

Noticed a trend in Entrepreneurial Cycle:
Ideas are Strong
Feasability Studies and Prototypes are Fair
Business Dev. Weak

Kauffman and NCIIA are experts in “why, how,… etc.” of technology entrepreneurship
The new proposal is NCIIA I2V: Idea to Venture

Program Assessment:
- Project base has been successful
- Gen Ed Class → Broadens Liberal Arts exposure
- Core Concepts: Scientific Method
- Entrepreneurship is applied Economics
- This allows people to study L.A and come out able to support themselves

Entrepreneurs Self Employed:
- Music Majors 40%
- Writing/Authors: 33%

Opportunity + Problem Solving + Creativity

Program Requirements:
- There are NO Prerequisites

Entrepreneurship:
- An opportunity minded approach
- All benefit from “why not?” attitude
- Project teams
- All have the right to be different
- Additive learning: each person knows pieces that make it happen

Certificate:
- You receive a entrepreneurial certificate at the end of the program: this is to avoid faculty bureaucracy and committees
The last leap is the question:
• “if the prototype won’t be what we take to market, then what is? “

Course in Entrepreneurship and Innovation is a Sophomore level course
• No accounting/ spread sheets
• Teach rule of thumb lessons “like you must make it for ~1/5 of what it sells for”
• Alleviate the fear of #’s

Entrep. Clinical Sequence:
• Groups range in size from 3 to 5. typically 1-3 engineers, 1 business, 1 Marketing
• 40% non business 60% business (of which 15% Finance and Accounting)

14% of students designate themselves entrepreneurs
2% of the Engineering students designate themselves entrepreneurs.

How does the program advertise?
• E-fairs:
  o Give away a bag of junk and ask students to make the most amazing product the can think of with it!
• 30 person board of Famous Entrepreneurs to increase exposure to entrepreneurship
• Coverage in local news, N.J. Philli Biz and other forms of public recognition

PARTNERSHIPS BETWEEN ACADEMIA AND INDUSTRY
- Ofer Amit, Florida International University

An integrated Educational Approach to BioMedical Innovation and Entrepreneurship:

Florida International University
• 42k students
• 1k faculty
• Largest producer of Hispanic Graduates
• Eng. 1600 students 80 faculty

Dept of Biomedical Engineering began in 1998 and began with cardiovascular foundation
Institute for Technology Innovation
• Family, research, education, social, technology

Robust Clinical Community (interest of many hospitals)

What are we trying to do?
• Close the loop of Biomedical Innovation
  o University → IO → end user Clinical Hospitals

FIU BMW:
• Practical experiences for faculty and students, project, support, technology, entrepreneurship and commercialization

Industry Partnership: Local

Clinical Partnerships:
• University offers cost effective research, technology and innovation

BME Department:
• A catalyst for excellence in education
• Innovation, invention, & discovery
• Teamwork and leadership
  o Funds
  • NSF
  • Wallace H Coulter Foundation
    • Technology and Innovation Program
    • Young Inventors Program
  • Howard J Leonhardt
    • Business Plan Competition

Partner Input: partners help shape curriculum
• MS
• BS
• PHD
• Faculty Hiring
• Formation of Department

Infrastructure
• Resources, space, people, budget
• By laws
• Semi-Annual Meetings
• BME advisory board
• BME executive committee (4 people)

Sponsorship Program:
• Function of Contribution: allow small, big and non profit to contribute, weight the contributions so that they can all have a degree of input.

Innovation Programs:
• Young Inventor Award
• Business Plan Competition
• Grad Program

Collaborative Tech. Innovation Program:
• Tech seed funding
  o On an annual basis
  o 2 - $50k awards available per year
  o 1 – $100k award available per year
• Phase 1: feasibility Assessment
• Phase 2: Ready for SBIR etc/ ange/venture

Clinical Rotations
• Allow students to meet end user

Senior Design Sequence:
• Entrepreneurial Option
  o Team must enter Business Plan competition
• Clinical Option
• Research Option
• Corporate Option
  o Dangerous b/c of conflits with IP

Where to go with BME?
• 3rd phase :
  • expansion: regional initiatives
  • bioscience tech/bus. Incubation
  • Scale Business Plan Across the University

Dialogue Post Session:

How is IP Handeled?
• Technology created jointly is owned jointly (Company and University)
  o Student has 0 share of IP, may potentially benefit financially after all other departments take their cut…

University lives by semester, but entrepreneurial activites live on…
How do you manage expectations, Academic vs. Entrep.? 1) Scientist 2) Institute for Technology and Innovation 3) Tech Transfer Office

Don't get something for nothing
• Companies get to identify great students