



Panel 5D Entrepreneurial Mindset

Facilitator: Adetoun Yeaman - Wake Forest University

Panelists:

Spencer Ciammitti - University of Arizona

Matthew Swenson - University of Idaho

Laura Stoy - RocketJudge

Description: More and more programs are including entrepreneurial thinking as one of their goals. This panel will discuss ways to nurture the entrepreneurial mindset in capstone design courses.

What does entrepreneurship/entrepreneurial mindset look like from your perspective?

- Matthew – entrepreneurship, industry, sense of ownership (imparting in capstone), creative mentality, better ways to do things, clearly articulate value proposition (not just in the weeds designing), the why? Sell ideas even if they are not entrepreneurs
- Laura – customer discovery e.g. talk to 100 stakeholders, where your products fits in the supply chain, pivoting based on the information, solving a problem someone will pay for, rapid iteration and testing
- Spencer – where to start, key competencies capital, fail early, give students mini failures

How might we support students to build the competency they need to pursue entrepreneurial ambitions, within and beyond a capstone environment?

- Student organizations
- CreateX at Georgia Tech (<https://create-x.gatech.edu>)
- Community of entrepreneurs
- Mentorship - students need to see people who have gone through the path they are pursuing
- Strategic partnership e.g. Capital factory (connected with UT Dallas) as a resource for venture capital and mentoring
- VC firms are becoming more interested in mentorship. They tend to have a strong desire to be current on advancements in technology and mentorship is an avenue to keep them in the know about new ideas. (Laura)
- Ideas for projects - partnerships with pre-collegiate programs could help generate ideas (Matthew)



Panel 5D Entrepreneurial Mindset

- NASA has about 15,000 patents looking for students to create products out of those ideas (Matthew)

How might we address the various relational challenges that could come from external projects?

Context: Some startups have unrealistic expectations of students, treating the students like free labor to get the project done within a short deadline and without offering much opportunity for students to be creative. Should we then completely steer clear of working with startups?

- Perhaps we could have intermediary relationships in place to help navigate collaboration with startups?
- For external entrepreneurs providing mentorship, strict guard rails are necessary to ensure students can achieve learning outcomes and fail safely – meetings to discuss project scope, a technical person to guide students (if the external company, or startup does not have this kind of technical mentor in place, it might be better to not move forward with the project)
- There is a different kind of labor involved in being a founder versus an employee
- Capital factory – helps make sure projects are well vetted, we do not want students to be free labor for companies
- It is important to help students have experiences of failure but not crushing experiences (it is not advisable to have companies speak harshly with students about their disappointment especially when expectations were not clear to begin with)
- Software engineering background positive experience with entrepreneurs over bigger corporations, API lacking, transfer to someone else (too big to care), startups more hands on
- Students and faculty can give pitches, faculty directors can vet them
- Collaborations with business schools

What qualities or character traits define an entrepreneurial mindset (whether one decides to become an entrepreneur or work for an existing company)?



JUNE 6-8, 2022 ▶ DALLAS, TEXAS

Panel 5D Entrepreneurial Mindset

- Sense of ownership – letting the ideas that they have flourish, letting students have IP (intellectual property) of the ideas they develop during capstone. Or at least be intentional about clarifying who has ownership if the project goes well (Spencer)
- Critical thinking, self reliance, future orientation
- Being aware of one's practical realities e.g. will I need to have a side job while building my business idea?
- Proud – believe in yourself and ability, self confidence (elevator pitch) (Spencer)
- Curious about the problems, making sure your idea solves the problems they need, it is useful
- Motivation – may have to go and look for two jobs, making that pathway more accessible

Suggestions and helpful resources for students and educators:

- Work for a company and then grow yours on the side
- Laura: I was a grad student - stable additional income
- Reduce risks
- For students – plant the seed that they can start their own company, modeling helps e.g. when students have faculty that are also entrepreneurs
- Keep alumni networks really strong, offer resources to alumni
- KEEN has a wealth of resources on engineering unleashed. Create an account for free and join the community. Lots of cards that support you in developing an entrepreneurial mindset and helping students cultivate it. See engineeringunleashed.com
- Thumbtack – great for connecting people who need resources with those who have the resources they need
- Career services within universities and partnerships
- Starting with faculty that we hire, are there faculty to help inspire and encourage students to grow in their entrepreneurial mindset and endeavors?
- Faculty learning communities – join and get paid. Faculty can create a community around entrepreneurship to learn best practices for supporting students
- Infuse entrepreneurial culture throughout university eco-system (Spencer)
- Most startups fail, but sometimes they bounce back, the next idea might stick
- FYI: Curricular analytics (a program that allows you to know how efficient your curriculum is based on a variety of metrics e.g. course load)
- Partner with business school
- Having partners to work with in a startup – they can have strengths that you do not have



Capstone Design
CONFERENCE 2022

JUNE 6-8, 2022 ▶ DALLAS, TEXAS

Panel 5D Entrepreneurial Mindset

- FYI: BME had a class on FDA approval (Spencer)
- Find a better way to do things, not simply follow instructions – empower students to do this, foster and celebrate their creativity (Matthew)
- RocketJudge
- Don't get comfortable - keep asking industry what they're doing, stay up to date (Laura)
- Matthew – the experiential classroom workshop, a resource for faculty