Developing an entrepreneurial mindset:
The solution to an uncertain, jobless future?

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New world of work
New world of work – an uncertain, jobless future?

• Higher education’s relevance has been questioned in a digitally disrupted world of work, as historically universities have typically prepared graduates for professional occupations.

• But in a digital economy, CEDA (2015) argues machines will:
  • Directly substitute labour – as much as 40% of jobs (i.e. 5 million jobs) in Australia could be replaced by computers in the next decade. Parts of professional jobs will be automated, or outsourced to destinations with lower labour costs.
  • Disrupt current work practices and processes
  • Increase and expand competition and reduce the income of workers

• Jobs that involve low levels of social interaction, creativity, or mobility and dexterity are more likely to be replaced by automation.

• For higher education this means graduates will enter an uncertain (unknowable) world of work where meta-capabilities such as novel and adaptive thinking, flexibility an innovative problem-solving is required.
Entrepreneurial mindset vital to graduate employability?

Increasingly entrepreneurship is seen as one of the vital skills for the future, as entrepreneurs have always lived with uncertainty and an ‘unknowable’ future

• Many universities, nationally and internationally now advocate to include ‘entrepreneurial skills’ as part of their graduate attributes
  • In journalism and arts, a number of authors have emphasised this ‘entrepreneurial turn’ (Deuze, 2014; Becker et al., 2012; Bridgstock, 2013).
  • Stanford, MIT and Berkeley all incorporate entrepreneurship as part of the curriculum for engineering students

• While many disciplines agree on the utility of entrepreneurial skills, the theoretical understanding and foundations of entrepreneurship education and pedagogy is lacking

• We address this gap by defining entrepreneurship for educators, and show that adopting an entrepreneurial mindset has career management implications for graduates, rather than the simplistic conceptualisation of entrepreneurship, as merely a new startup or self-employment.

• We also outline the underlying pedagogical principles that guide our approach in developing an entrepreneurial mindset not only business graduates, but also those in arts, science, and engineering (STEM) fields to enter the workforce with an entrepreneurial mindset.
Definitions

• Entrepreneurship is the pursuit of opportunities beyond resources controlled (Stevenson and Jarillo, 1990).
  • Opportunities and resources as central constructs

• Entrepreneurship scholars ask:
  • Where do opportunities come from and how to acquire resources?
  • Are opportunities discovered or created?
  • Are resources acquired through formal or informal means?

• These answers relate to world view and have important implications for educators

• We adopt the effectuation view of entrepreneurial action as a teachable approach:
  • Under conditions of uncertainty entrepreneurs draw from resources at their disposal, to solve problems or seize opportunities, allowing goals to emerge contingently over time from the varied imagination and diverse aspirations of the founders and the people they interact with (Sarasvathy, 2001).

• Entrepreneurial mindset – follow and entrepreneurial problem-solving approach of rapidly sensing problems as opportunities, acting on potential solutions and mobilizing resources and support under uncertain conditions (Haynie et al., 2010).
Pedagogical Principles for experiential entrepreneurship

- Resources already available at hand
- Unexpected events are source of opportunities
- Partnerships with self-selected stakeholders
- Non-predictive learning mindset
- Affordable Loss

Startup Launch Lab
Pedagogical Principles for experiential entrepreneurship

1. Resources already available: Ask: Who am I?; What do I know? and Whom do I know? (Sarasvathy, 2001)
   A team with multi-disciplinary skills and different networks have more resources;
   Implication: Teach students to work with others – appreciate their own & skills of others

2. Non-predictive learning mindset (vs. getting it right- predictability mindset)
   Experimentation in uncertain conditions where outcomes are unknown; test customer hypotheses
   Implication: Teach students to test, learn and iterate ideas and designs

3. Affordable loss, not risking more than prepared to lose
   Use limited resources, test and learn from ‘failure,’ overcome and try again
   Implication: Teach students to learn from what goes wrong, bounce-back and builds entrepreneurial self-efficacy as they learn what it takes to turn concept into startup

4. Form partnerships with self-selected stakeholders
   Self-selected stakeholders: team members, customers, suppliers or mentors pre-commit and bring resources
   Implication: In professional realm resources beyond individual and team can be obtained by getting others on board

5. Unexpected events are sources of potential opportunities
   Remain flexible and adaptable as unforeseen events are part of developing a new venture; use unexpected as advantage
   Implication: Teach students to view disruption as opportunity for change and develop ‘novel and adaptive’ thinking
Entrepreneurial Method

Minimum Viable Concept

Adapt/Pivot

Hypotheses

Accept/Reject H1

Test by Learning from Customers
Aim

How does the development of an entrepreneurial mindset impact on graduate employability?
Case Study:
Startup LaunchLab

**Preparation:**
Entrepreneurship theory of creative problem-solving, opportunity development and screening of concepts

**Creation:**
Participation in Startup Weekend creating a new venture through teams, venture prototyping, mentor support, market feedback and final pitches

**Reflection:**
Critical reflection on experience, business model development and feasibility
Method

• We use a qualitative research design, drawing on multiple data sources such as student perspectives, observation, and interviews at USC (2014-2016).

• Data sources were thematically analysed to determine how students’ entrepreneurial mindset and outcomes developed over the semester and how this relates to graduate employability.
Startup Weekend Sunshine Coast 2016: #SWSC Teams (Creation)
# In 2016 Nine Student Startups Created

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<tr>
<th>Foodie</th>
<th>SurfPulse</th>
<th>Fheels</th>
<th>ReceiptLock</th>
<th>Watchman</th>
<th>Propa</th>
<th>iGive</th>
<th>StemStudio</th>
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<tbody>
<tr>
<td>Foodee aims to help people avoid foods they wish. If you have allergies, intolerances, special diets i.e paleo, vegan, vegetarian; then Foodee is your app!</td>
<td>Surf Pulse solves the problem of crowded surf spots. We find you the perfect surf spots for your skill level and shows you how crowded the spot is. Get on the best waves by joining a great surf community.</td>
<td>Fheels provides women with fashionable shoes with removable heels that look fashionable and can be converted to a flat heel comfortable shoe, with health benefits.</td>
<td>Our mission is to change the way we get receipts. We want to make it easier to receive receipts, return products and eliminate wasteful paper receipts.</td>
<td>Watchman addresses the problem of elderly or sick people falling and getting hurt by automatic detection that alerts the carer when a fall or seizure occurs through a smart Bluetooth watch.</td>
<td>Propa gives you the support and tools to build your business foundations. Propa is a self paced startup incubation process system to step you through the setup stage of starting your own business.</td>
<td>iGive is a platform where charitable individuals can contribute to a cause, without being contacted by a charity representative.</td>
<td>StemStudio brings virtual reality to the classroom, making science and engineering subjects more interesting and engaging through VR applications.</td>
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Reflection from 2016 students

“The Startup Weekend provided a real world context for everything we learned during the course”

“This course was really grounded in real world practicality, and that had the biggest impact”

“I have always wanted to be an entrepreneur. This course has just accentuated my purpose”

“I know now that I am capable of running my own business, and that I have something valuable to offer”

...“having come out of the course, I can now sit down and comfortably consider the concepts that need to go into creating a new idea”

Reflections from faculty

Students were better prepared for the weekend than community participants in terms of lean startup processes, which created challenges for them in working with team members who did not have this knowledge.

Many students still stuck to ‘discipline’ groupings in forming teams.

Lecturer support during the weekend helps students ‘find their tribe’ and get through the emotional rollercoaster of Startup Weekend.

Challenges that are socially engaging and requires the class to work together beyond discipline groups might help break down disciplinary barriers.

Engineering and Serious Games students were generally not as well integrated as other students, so solutions for this should be developed for 2017 as more FOSHEE students join the course.
## Findings – graduate outcomes

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<th>Findings</th>
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<tr>
<td>Entrepreneurial mindset</td>
<td>Students report being more comfortable to put forward innovative concepts and ready to act on these (pro-active)</td>
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<td>Creation of start-ups</td>
<td>All students created start-ups during SW, 33% continue on</td>
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<td>Finding dream jobs</td>
<td>25% of students report finding their ‘dream job’ through the mentors met at SW</td>
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<td>Grow industry network</td>
<td>Students meet members of business, technology and design community and collaborate with some on teams. Become informed of industry developments through mentor interactions</td>
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<td>Improve skill set</td>
<td>Grow skill set in iterative (design thinking), experimental manner and learn technology skills</td>
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**Graduate attributes**

- **creative & critical thinkers**
- **empowered**
- **engaged**
- **communication**
- **collaboration**
- **problem-solving**

- novel & adaptive thinking, serving target customer needs or proposing solutions
- more confident through pitching and product creation actions
- actively involved, supported by knowledge, clear links between theory and practice
- spoken, concise communication of ideas, video messages and business plans
- work in multi-disciplinary teams and with industry professionals
- develop entrepreneurial problem-solving approach
Conclusion

Future Work Skills 2020
Institute for the Future