# Lean Startup Approach to Design Impact-Driven Education Projects

**Learning Summit 2017 – June 14, 2017 – 8:00 – 8:45 am**

## Agenda

<table>
<thead>
<tr>
<th>Segment</th>
<th>Time</th>
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<tbody>
<tr>
<td>Introduction of Facilitators, ASEE, and Summit Expectations</td>
<td>5 min</td>
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<tr>
<td><strong>Implementing Innovations in Academia</strong></td>
<td>10 min</td>
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<tr>
<td>• Importance/Role of Discovery in Implementing Educational Projects</td>
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<tr>
<td>• NSF Innovation Corps for Learning (I-Corps™ L)</td>
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<tr>
<td>• History &amp; Description</td>
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<tr>
<td>• Current Initiatives</td>
<td></td>
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<tr>
<td><strong>Lean Start-Up Approach</strong></td>
<td>5 min</td>
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<tr>
<td>• Business Model Canvas</td>
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<tr>
<td>• Customer Discovery Process</td>
<td></td>
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<tr>
<td>• Agile Engineering – Iterate &amp; Increment</td>
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<tr>
<td><strong>Customer Segments (CS) and Value Proposition (VP) Exercise</strong></td>
<td>20 min</td>
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<tr>
<td>• Identify an education innovation that you would like to see sustained and scaled</td>
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<tr>
<td>• Within that innovation identify one Value Proposition (VP) that you think is aligned with one Customer Segment (CS)</td>
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<tr>
<td><strong>Summary and Feedback</strong></td>
<td>5 min</td>
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### Membership
- **12,000+** individual members (1,400 online)
- **460** colleges of engineering and engineering technology
- **90+** corporations, professional organizations, & government agencies

### Dues
- **Community Colleges - $350**
  - International Institutions - $1,500
  - U.S. Institutions - $3,500 - $5,000
  - **Individual - $89 (online)**

### Learning Summit Expectations

A working retreat for college teams to focus on improving and expanding learning at their institutions, with the aim of helping colleges accelerate progress on these efforts...

... each college team... to identify a specific project or initiative that will be its focus during the Summit. *(Ask some attendees to briefly describe their project)*
### I-Corps™ for Learning History

<table>
<thead>
<tr>
<th>June 2013</th>
<th>June 2014</th>
<th>June 2015</th>
<th>June 2016</th>
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- **Pilot**: Jan-Feb 2014
- **Cohort 1**: Jan-Feb 2015
- **Cohort 2**: Jul-Aug 2015
- **Cohort 3**: Jul-Aug 2016

- **3 Cohorts + Pilot**
- **73 Teams**
- **234 Participants**
- **18 Instructors**
- **3 Evaluation Partners**

### 7-week Program

- **Educational Innovation**
- **Customer Discovery**
  - **Kick-off Workshop**
  - **5 Online Sessions**
  - **Lessons Learned Workshop**
- **Readiness for Sustaining & Scaling?**

- **100 Interviews**
Key Features of I-Corps™ for Learning

- Curriculum
  - Business Model Canvas
  - Customer Discovery
  - Agile Engineering

- Course Specific Outcomes

- Assessment Instruments

- Syllabus Iterations

- Balanced Teaching Team

- Diverse Participant Segments

- Teams Composition

Current Initiatives

<table>
<thead>
<tr>
<th>Awareness Sessions</th>
<th>Introduction to I-Corps™ L</th>
<th>National Cohort</th>
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<tbody>
<tr>
<td>1-3 hours</td>
<td>2 weeks</td>
<td>7 weeks</td>
</tr>
<tr>
<td>Face-to-Face</td>
<td>Online Hybrid</td>
<td></td>
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<tr>
<td>Online</td>
<td></td>
<td>Hybrid</td>
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<tr>
<td>• Introduction to core features of the Lean Startup Process</td>
<td>• Opportunity to develop ‘proof-of-concept’ evidence towards sustaining and scaling</td>
<td>• Opportunity to determine innovation readiness for sustainable scalability</td>
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<tr>
<td>• Focus on the importance of sustainable scalability at the early stages of concept development</td>
<td>• Focus on Value Proposition + Customer Segment ‘fit’</td>
<td>• Immersion in the Lean Startup Process</td>
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Frontiers in Education (FIE)
October 2017, Indianapolis, IN

*ASEE Annual Conference
June 25-28, Columbus, OH

(1) Poor (2) Adequate (3) Outstanding (4)
SMART START
DESIGNING IMPACT-DRIVEN PROJECTS

ABOUT THE COURSE
This no-cost, two-week course is designed for researchers and innovators who want to deepen the impact of a project, product, or program to improve STEM education at any level in both formal and informal settings. When you accept the challenge, you will:

• Identify the audience for your innovation and expand your research impact.
• Learning how to develop an effective proof-of-concept, saving time and resources.
• Awaken your inner entrepreneur.
• Become more aware of the needs of others and seek efficient ways to address them.
• Decide whether a rigorous, 8-week training like NSF-I-Corps™ or I-Corps™ for Learning (I-Corps™ L) is right for you.

HOW TO APPLY
1. Check eligibility and application process on the website:
   https://www.asae.org/corp-of-events/smart-start
2. Prepare an online application that addresses the following:
   • Brief description of your STEM learning innovation.
   • Summary of evidence supporting innovation (e.g., documented learning outcomes) and any proof of concept data (implementation results). 
   • List of (up to three) team members, including their connection with the innovation (e.g., principal investigator, graduate student researcher, etc.).
   • Confirmation of team members’ willingness to commit to the two-week course, including attending all meetings and conducting customer discovery interviews.
3. Submit an application at
   https://www.surveymonkey.com/r/smartstartapp

Two Parts to Innovation (including Educational)

1. Advancing the science/technology [research]
2. Finding a repeatable business model
   • Current efforts focus on #1
   • Successful efforts require both
Lean Startup
Three Steps to Taking an Idea to a Business

Steve Blank, Lean LaunchPad® Developer
www.steveblank.com

1. Frame Hypotheses

• Frame Hypotheses ➔ Business Model Canvas

[Diagram of Business Model Canvas]

- Partners
- Activities
- Value Propositions
- Customer Relationships
- Customer Segments
- Channels
- Customer Segments
- Costs
- Revenue Streams
- Revenue

www.businessmodelgeneration.com
2. Test Hypotheses

- Frame Hypotheses ➔ Business Model
- Test Hypotheses ➔ Customer Development

3. Build Incrementally & Iteratively

- Frame Hypotheses ➔ Business Model
- Test Hypotheses ➔ Customer Development
- Build the product Iteratively & Incrementally ➔ Agile Engineering
Activity: Choosing an Educational Innovation

- Individually,
  - Identify an educational innovation you would like to see sustained and/or scaled
  - Write 1-2 sentence(s) describing the innovation
- In small groups (2-3 people),
  - Share the innovations you identified and select one for the group
  - If needed, re-write 1-2 sentence(s) describing the innovation
Mistake #1

Building Something Nobody Wants!

That’s why we start with these
### Customer Segments

**Does Anyone Care?**

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
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- Who are your most important customers?
- What job do they want to get done?

<table>
<thead>
<tr>
<th>Key Resources</th>
<th>Channels</th>
<th>Cost Structure</th>
<th>Revenue Streams</th>
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### Value Propositions

**Why Do They Care?**

<table>
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- What customer problems are you helping to solve?
- What customer needs are you satisfying?
A value proposition is a promise of value to be delivered. It is a clear statement that:

- explains how your innovation solves customers’ problems or improves their situation (relevant),
- delivers specific benefits (descriptive, measurable),
- tells the user or buyer why they should use it or buy from you and not from the competition (unique).

http://conversionxl.com/value-proposition-examples-how-to-create/#.

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Value Proposition

Customer Segment: Which people? Be specific!

would “pay” to ______________________________

Value Proposition: Solve this problem

in a way that

______________________________

Verb (reduces, increases, etc.)

______________________________

a specific Customer Pain or Gain

(Unlike ________________________ )

Extra Credit: How is it different than the competition?
### Features vs. Value Propositions

<table>
<thead>
<tr>
<th>Features</th>
<th>Weak Value Propositions</th>
<th>Strong Value Propositions</th>
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</thead>
<tbody>
<tr>
<td>Fun &amp; Engaging</td>
<td>Faster, Cheaper, Better</td>
<td>Relevant, Significant &amp; Testable Product &amp; Benefits</td>
</tr>
<tr>
<td>Field-specific skill building</td>
<td>Getting students involved in a Service Learning project</td>
<td>Increase number of females and minorities in Manufacturing Tech program</td>
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### Customer Segments

<table>
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<tr>
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<tbody>
<tr>
<td>Buildings, Organizations</td>
<td>Broad Groups of People</td>
<td>Very Specific Job Titles, Very Specific Archetypes/Personas</td>
</tr>
<tr>
<td>Colleges</td>
<td>Faculty</td>
<td>Newly Hired, STEM Faculty</td>
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## Customer Segments (CS) and Value Propositions (VP) Alignment

**What makes for a compelling value proposition?**

- What problem are you solving/need are you serving?
- How?
- For whom?

### Value Proposition Customer Segment Ad Lib

<table>
<thead>
<tr>
<th>CS</th>
<th>VP</th>
</tr>
</thead>
</table>
| Customer Segment: Which people? Be specific! | would “pay” to ____________________________  
| | Value Proposition: Solve this problem |
| in a way that | |
| Verb (reduces, increases, etc.) | |
| a specific Customer Pain or Gain | |
| (unlike ____________________________) | |
| Extra Credit: How is it different than the competition? | |
The Value Proposition Canvas

**VP:** Increase number of good applicants for graduate/professional schools

- Undergraduate-focused demographic
- International publication
- Peer reviewed undergraduate publication
- Registered with the Library of Congress
- Student run and self-sustaining

**Gains**

- Increased total number of applicants
- Widespread knowledge of their program
- Visibility on an international platform
- College programs listed and exhibited
- Cost less than traditional ads
- Higher visibility: international undergrad audience

**Pains**

- Small advertising budgets
- Limited “local” reach
- Does not draw diverse student pools
- Lacking desired number of applicants

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**CS:** University Department Chairs/Directors (Admissions)

- Recruit students to their programs (grad & undergrad)
- Guide students through their degree
- Prepare students for employment or grad school

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**Acknowledgments**

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We acknowledge the League for Innovation in the Community Collage for hosting.
Thank you!

An e-copy of this presentation will be posted to:

www.asee.org/i-corps-l

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