



 National Collegiate Inventors and Innovators Alliance

Assessment Methodologies for Entrepreneurship Education around the Approach of the Lean Launch Pad

**3:30 to 4:30
Saturday March , 2014**

The Panel

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Relationship of Panel Members



NSF/ NCIIA
I-Corps

Uber-Assessor
Dr. Shartrand

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The Startup Class
@ Virginia Tech

Instructor
Dr. Lesko
Assessor
Dr. Amelink

Assessor
Dr. Ybarra



How is entrepreneurship measured?

- Start ups - New Business
- Knowledge of business plan components
- The change in mindset



Frameworks to Initiate Discussion

Framework	Author	Premise
Intentions	Bird Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. <i>Academy of management Review</i> , 13(3), 442-453.	Attention toward the complex relationships among entrepreneurial ideas and the consequent outcomes of these ideas
Entrepreneurial Orientation (EO)	Lumpkin and Dess Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. <i>Academy of management Review</i> , 21(1), 135-172.	Autonomy Innovativeness Risk taking Proactiveness Competitiveness
The Big 5 Personality Traits of Entrepreneurs	Zhao and Seibert Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: a meta-analytical review. <i>Journal of Applied Psychology</i> , 91(2), 259.	Neuroticism Extraversion Openness to Experience Agreeableness Conscientiousness
Entrepreneurial Self Efficacy (ESE)	DeNoble et al De Noble, A. F., Jung, D., & Ehrlich, S. B. (1999). Entrepreneurial self-efficacy: The development of a measure and its relationship to entrepreneurial action. <i>Frontiers of entrepreneurship research</i> , 1999, 73-87.	Developing new product or market opportunities Building an innovative environment Initiating investor relationships Defining core purpose, Coping with unexpected challenges Developing critical human resources
Self Efficacy	Bandura Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. <i>Psychological review</i> , 84(2), 191.	Self-efficacy refers to an individual's belief in their personal capability to accomplish a job or a specific set of tasks



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NATIONAL I-CORPS EVALUATION

- Program Began: Fall 2011
 - Offered at Stanford, led by Steve Blank
- Evaluation Began: Spring 2012
 - Offered at Stanford, led by Steve Blank
- 13 courses have been offered at five I-Corps Nodes (7 sites)
- ~ 300 teams have competed to date
- Instruments administered during course are designed to be ***formative***
 - Are the courses being implemented in consistent ways over time and across nodes?
 - How are incoming teams changing over time?
 - Are the course objectives being met?

I-CORPS FORMATIVE COURSE EVALUATION



7-WEEK I-CORPS COURSE

3 Day Opening
In-person

5 On-Line Sessions/ 5 Weeks

2 Day Closing
In-person

I-CORPS FORMATIVE COURSE EVALUATION

PRECOURSE

- Team data
- Previous experiences
- Project status
- Attitudes/expectations



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ONLINE SESSIONS

- Session quality
- WebEx & LPC tools
- Rank educational activities

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END OF COURSE

- Educational climate
- Course objectives
- Project status
- Future intentions

7-WEEK I-CORPS COURSE

3 Day Opening
In-person

5 On-Line Sessions/ 5 Weeks

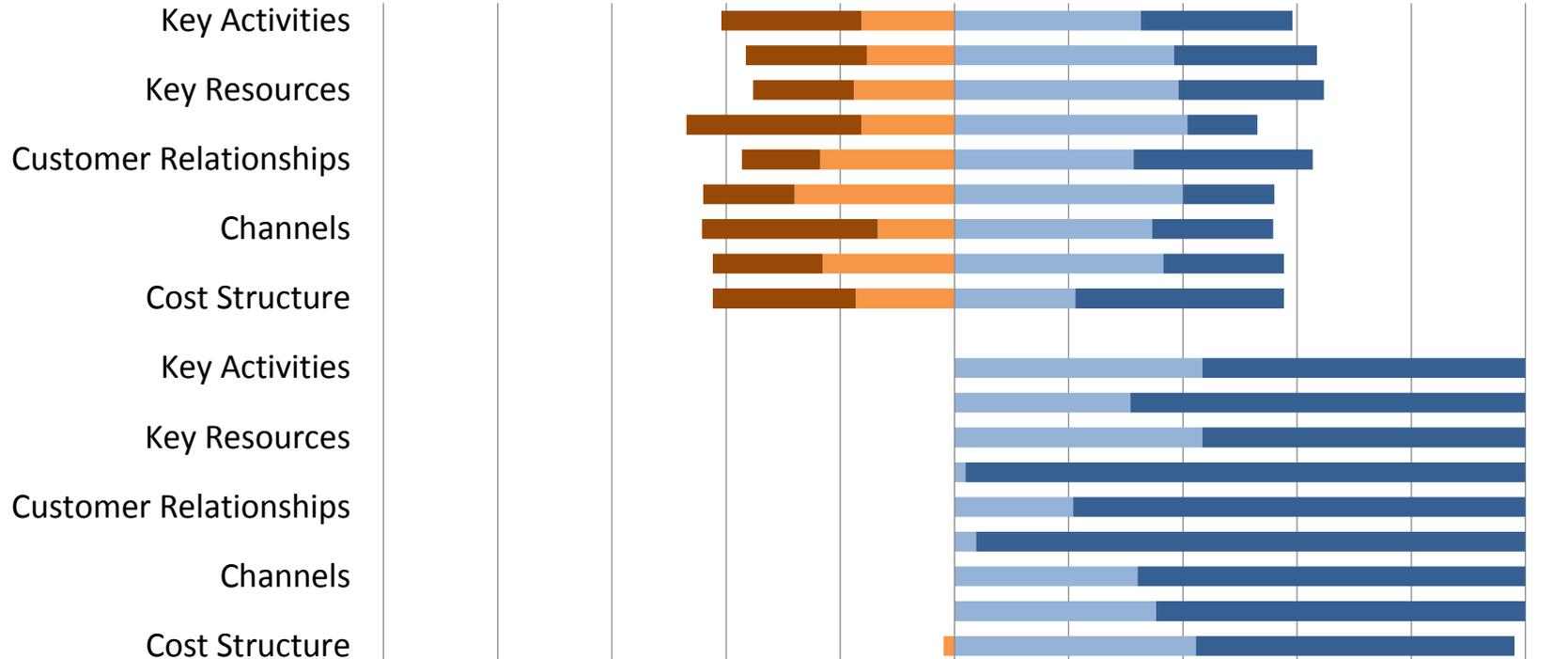
2 Day Closing
In-person

Osterwalder's Business Model Canvas (Knowledge)

BMC Knowledge

Very Little Nothing Some A great deal

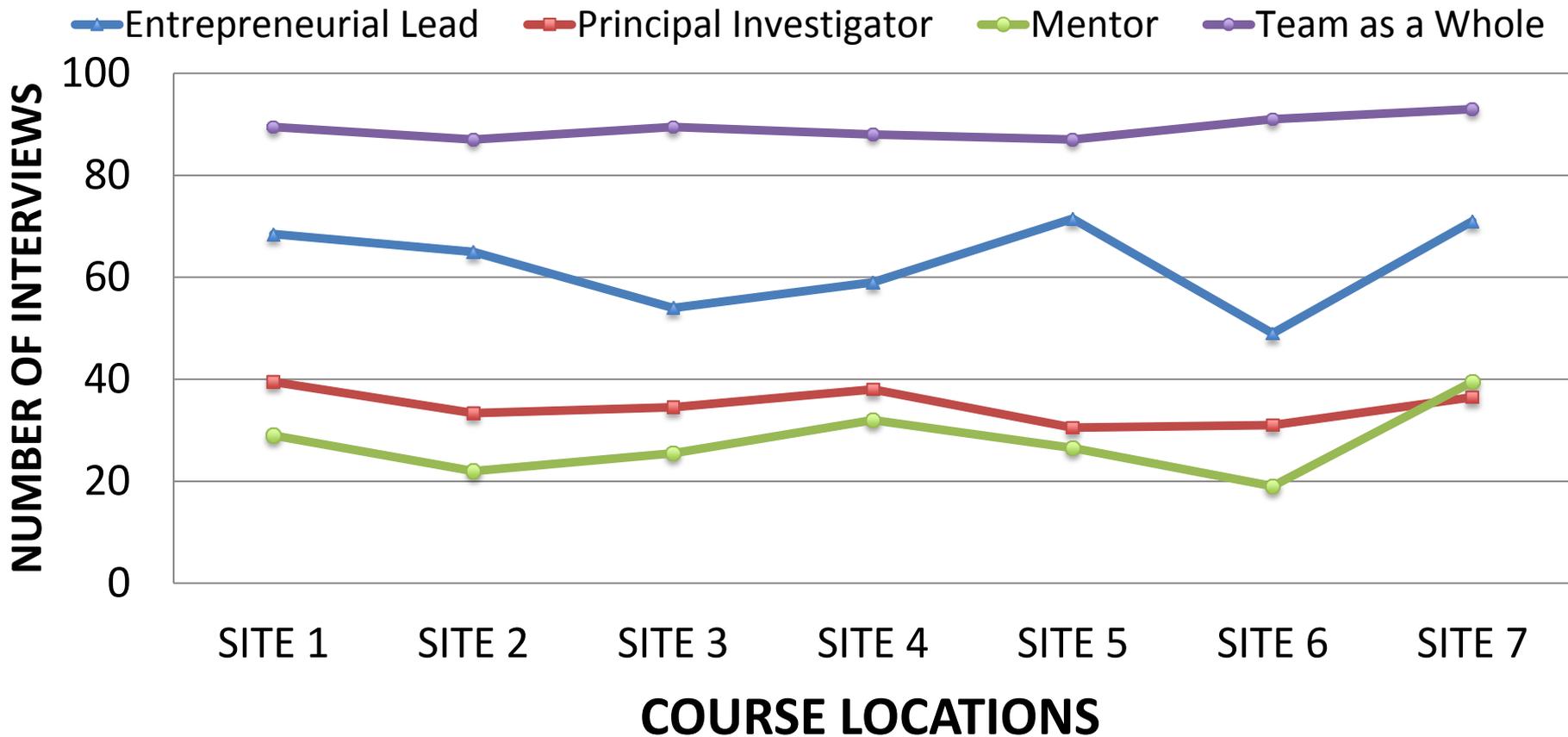
BEFORE



AFTER

FRAMEWORK: Performance Levels (Outputs)

Customer Interviews



PERCEIVED EFFICACY OF COURSE ACTIVITIES

ACTIVITIES WITH HIGHEST IMPACT	Rank Score
Getting out of the building (customer interviews)	10.000
Attending the three-day workshop	8.809
Instructor feedback during your WebEx presentations	5.921
Identifying hypotheses to test	5.674
Presenting your work via WebEx	4.850
Office hours with teaching team	3.556
Online lectures (via Udacity)	2.641
Instructors' comments on LaunchPad Central	1.109
Using LaunchPad Central	0.820
Weekly reading assignments	0.891
Watching other teams present via WebEx	0.586
Receiving peer feedback from other teams	0.267
Giving peer feedback to other teams	0.000

NEXT STEPS: LONGITUDINAL EVALUATION

- A post-course longitudinal study is designed to be both *formative* and *summative*
 - Are teams commercializing their technologies?
 - Are ventures forming and thriving?
 - What *challenges* have they encountered and what *needs* to they have?
 - What are the impacts on individuals' teaching, research, or careers?

NEXT STEPS: LONGITUDINAL EVALUATION

LONGITUDINAL

- **Commercialization status:** licensing, start up, SBIR, investment, revenue, jobs
- Impact on **individuals:** research, mentoring, teaching, career
- **Needs** assessment: Expertise, advisors, networks

YEAR 2

YEAR 3

YEAR 4

YEAR 5

POST I-CORPS OUTCOMES (YEARS 2-5)

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I-Corps Instructor/Educator Assessment Focus

- What should we assess in the LLP problem based learning environment?
- Notable shift in mindset: Why? Causes? An indication of future opportunity assessment capability?
- What are we measuring and why?

Example Mindset Question – StartUp Class

Please think of your own actions on projects or tasks in the past and respond to the following statements.

	Never	Rarely	Sometimes	Often	All of the Time
I try to break problems down into smaller components.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find myself pausing regularly to check my comprehension of the problem or situation at hand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I perform best when I already have knowledge of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I ask myself if I have considered all the options after I solve a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think about how others may react to my actions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I ask myself if there was an easier way to do things after I finish a task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find myself analyzing the usefulness of a given strategy while engaged in a given task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know what kind of information is most important to consider when faced with a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know what kind of information is most important to consider when faced with a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I challenge my own assumptions about a task before I begin.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Psychological Framework

Typical model

Provide education, intervention → Assess outcomes (e.g., MVP generated; start-up “started;” IP registered)

Emerging model (mediation via mindset)

Provide education, intervention → Assess mindset → Assess outcomes (e.g., MVP generated; start-up “started;” IP registered)

What are the elements of this mindset that we think matter?



Questions to begin the conversation

- What are others looking at regarding changes of mindset?
- What other approaches or frameworks are being considered?
- Can a single assessment framework be appropriate for all constituents?

