

2019 GCEC Awards Nomination

Nominee:

Sutardja Center for Entrepreneurship & Technology

Institution:

The University of California, Berkeley

Submission team:

Ikhlāq Sidhu, Director

Keith McAleer, Communications Director

Susan Giesecke, Global Engagement Director

Category:

Category: 5. Excellence in Entrepreneurship Teaching and Pedagogical Innovation

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The staff and faculty at the Sutardja Center for Entrepreneurship & Technology at the University of California, Berkeley would like to submit our nomination in the category of **Excellence in Entrepreneurship Teaching and Pedagogical Innovation**. The submission team includes the center director, Ikhlāq Sidhu (sidhu@berkeley.edu), communications director, Keith McAleer (kmcaleer@berkeley.edu), and global engagement director, Susan Giesecke (sgiesecke@berkeley.edu).

The teaching and pedagogical innovation that we would like to highlight is *the Berkeley Method of Entrepreneurship*, an approach to teaching and learning entrepreneurship that emphasizes inductive learning and a journey-based approach to developing entrepreneurial skills.

Inductive learning for an entrepreneur means that they will learn best by taking a hands-on approach. Through the act of developing ventures, students discover and recognize behavioral patterns that cause them to succeed and fail, and learn through reflection and continued effort. By having the opportunity to create new ventures, students can also improve their confidence by gaining experience with the act of implementing their own ideas.

By taking a journey-based approach, students develop a growth mindset to help them understand where they are at in developing their innovation skills, and then focus on improving the areas where they are weakest. Students taking this approach learn to understand that through persistence and grit, they can develop their skills and ideas in any area.

The three elements of the pedagogy are mindset, networks, and frameworks. The pedagogy helps entrepreneurs understand that their mindset is important, and can be changed to help them improve their chances at entrepreneurial success. For example, entrepreneurs with certain psychological mindsets, such as being open, trusting, valuing diversity, and being okay with risk, are mindsets that more often lead to entrepreneurial success.

The networks element helps students learn that they can increase their chances for success by developing diverse networks, improving their ability to connect, developing supportive ecosystems, and cultivating a network of expert mentors. By developing these networks, students can develop valuable connections in the domain where they are working, and learn directly from mentors who have been through similar struggles, and can give them specific advice on what is next for them in their journey.

The frameworks element falls in the more traditional area of innovation education, by teaching students basic business models, MVP, opportunity recognition, case studies, and the sales and marketing process.

The rationale for creating this program is that entrepreneurship isn't purely an academic pursuit, and cannot (only) be learned from a book. So far, no one has created a prescription or step-by-step recipe that will guarantee that a venture will be successful. But through this approach, we believe we can help students increase the chances that they will be successful.

For example, there is much research showing that diverse teams are more productive and better at problem-solving than teams where each member is similar. This makes sense because when each member is similar, they do not have unique skills to offer to the team. Additionally, diverse teams may have more friction than homogenous teams, which can actually be productive as that bit of conflict can produce more dynamic solutions than when everyone automatically agrees with each other.

So, while one can simply read the research referenced above about why diverse teams are better, our approach is to help students learn this intuitively by creating ventures and having a chance to actually see the weakness in their own teams when they are homogenous, and see the strength that comes from having diverse teams with different skills and perspectives. Again, this reinforces our inductive approach, where students uncover these patterns through experience, and develop general principles that will guide their future decisions.

Another unique element of this pedagogy, and a faster way to help students discover guiding principles, is the focus on a game-based approach to inductive learning. In our courses, students form venture teams and collaborate in games in order to discover innovative patterns.

One example of this is the marshmallow game. In this game, teams of students compete to build the tallest tower that they can in a limited amount of time. While, students can read about why taking an iterative approach is the best way to develop new ideas, the marshmallow game helps them discover for themselves why an iterative approach is best. They not only learn by working with their own team and seeing their progress, but they are able to see how other teams work, and ultimately see the winning (iterative) approach that teams that build the largest towers are using.

Another game example is the value barter game where teams of students compete to secure the most valuable item that they can in a matter of two hours. Each team starts with a small plastic box and has two hours to walk around campus to talk to strangers and ask them if they have something they'd like to trade. Again, students can learn from lectures or in a book about how they can "create value" with the products they design or why it is important to network and create resources through trade, but through this game they can actually create value in real-time, and see their potential when they come back with items worth hundreds or even thousands of dollars.

The Center has multiple ways for assessing the effectiveness of this approach. One example is the Berkeley Innovation Index, an assessment tool developed by our Center's Data X-Lab that helps measure an individual's ability to innovate. The tool measures an individual's current psychological state and gives a report to the user to let them know how they measure on openness, trust, resilience and other measures mentioned above that help entrepreneurs improve their chances of success.

One example of how this tool is used is at our Berkeley Method of Entrepreneurship bootcamp, a 4-day intensive course held twice per year attended by hundreds of students from Berkeley and around the world. Students in the class take the innovation assessment at the beginning of the week, and then again at the end of the week. This helps us emphasize that these traits are important to students, shows the impact of our program (as the results tend to be better at the end of the week), and shows the students that these traits are not fixed, and can be changed and improved.

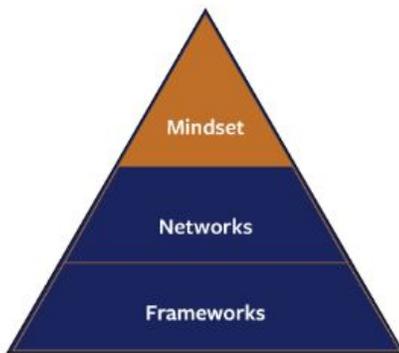
Another way that we can show the impact of this program is through its growth and popularity. Our Center initially offered one course when we started in 2006 and has grown to twenty-five courses that will be offered this fall 2019. Besides the Berkeley Method of Entrepreneurship mentioned above, our signature course is called "Challenge Lab" where the Berkeley Method of Entrepreneurship is the key pedagogy used.

Through the Challenge Lab courses, students have an opportunity to build a new venture project in an emerging topic such as blockchain, data, AI, IoT, etc. While students do learn from lecturers and text in the course, the main idea is that they will form a diverse venture team, and develop a prototype throughout the semester. While most venture projects do not turn into companies, many do, and some teams have had significant venture success, such as GoGoVan a "unicorn" startup based in Hong Kong, whose founder was trained in our Center using this method. Other examples include, tbh, a popular social media app, created by alum Nikita Bier, and more recently, Prime Roots, a venture-backed startup that is focusing on developing alternative meat and protein products.

Figure 1: The three elements of the Berkeley Method of Entrepreneurship

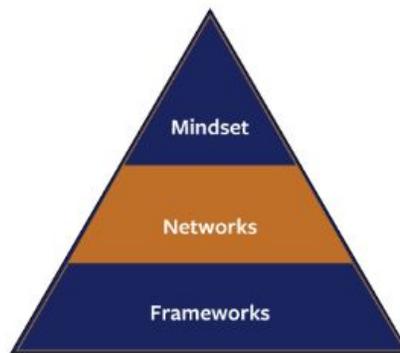
Three Layers of the Berkeley Method of Entrepreneurship

The Berkeley Method of Entrepreneurship's *inductive learning* and *journey-based* approach are supported by these three main elements.



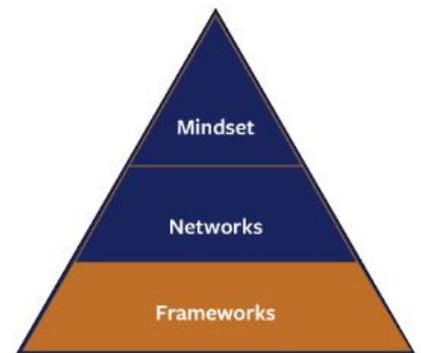
Mindset

Exposure to issues related to culture, social psychology, and mindset. The psychology of being an entrepreneur e.g. trusting, understanding the value in diverse teams, belief and ethics, risk assessment, communication, overcoming social barriers, rejection therapy, fail training, etc.



Networks

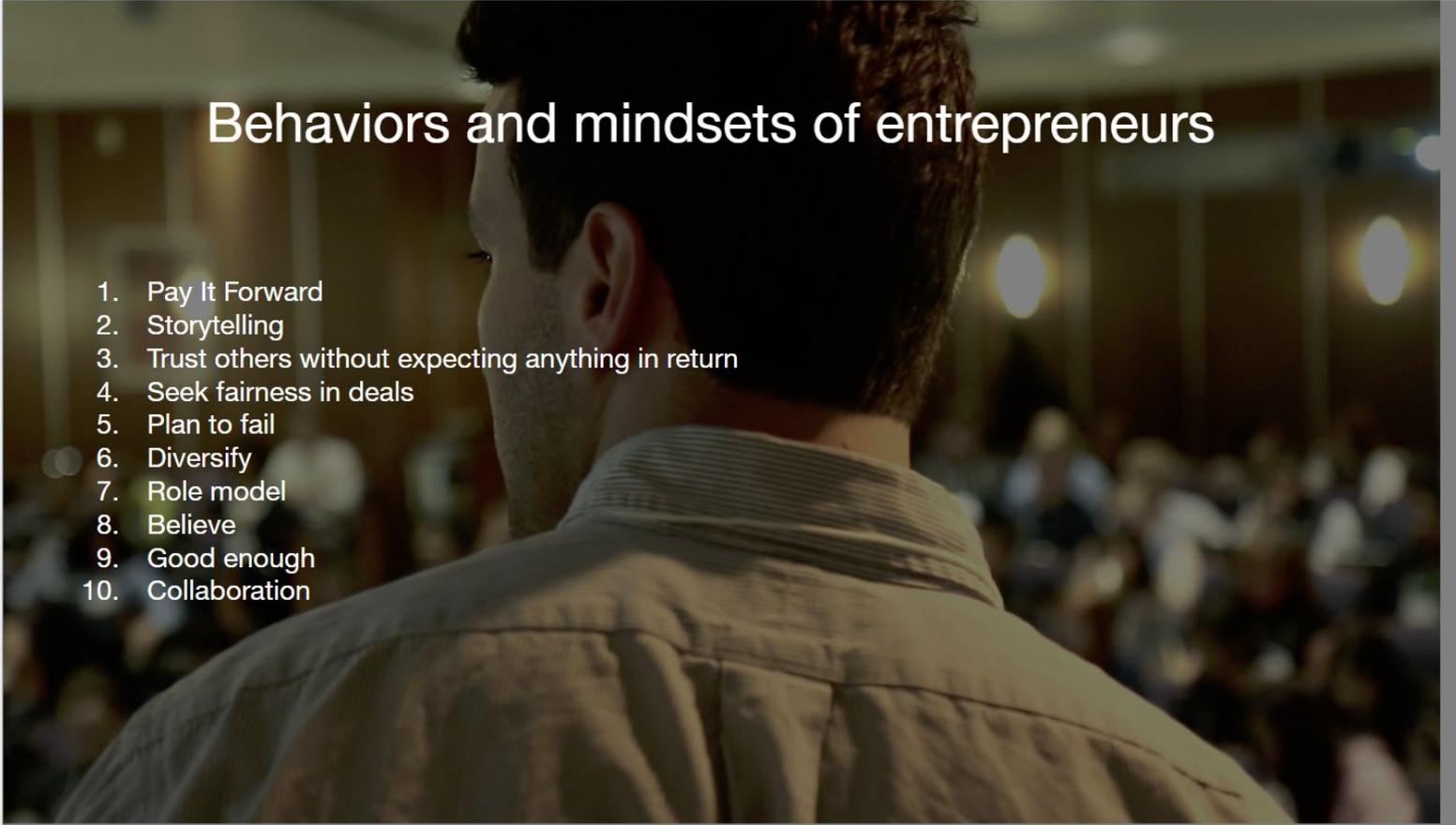
Assuring infrastructure and supporting, safe and effective environment e.g. diverse networks, ability to connect, facilities, services, clarity of rules of engagement, ecosystems and mentors.



Frameworks

Opportunity recognition, MVP, raising funds, business models, case studies, sales process and other tools and processes associated with entrepreneurship.

Figure 2: Behaviors and mindsets the method develops in entrepreneurs



Behaviors and mindsets of entrepreneurs

1. Pay It Forward
2. Storytelling
3. Trust others without expecting anything in return
4. Seek fairness in deals
5. Plan to fail
6. Diversify
7. Role model
8. Believe
9. Good enough
10. Collaboration

Figure 3: Ikhlq Sidhu wins IEEE Major Education Innovation Award, partly for developing the Berkeley Method of Entrepreneurship

Ikhlq Sidhu Wins 2018 IEEE Major Education Innovation Award

By Keith McAleer | July 31, 2018



Ikhlq Sidhu, professor in the Department of Industrial Engineering & Operations Research at the University of California, Berkeley, and faculty director and chief scientist at the UC Berkeley Sutardja Center for Entrepreneurship & Technology has been awarded the 2018 Major Education Innovation Award by the IEEE Educational Activities Board (EAB) for his contributions in entrepreneurship pedagogy and innovative teaching methods.

Figure 4: Students playing the “marshmallow game” at the Spring 2019 Berkeley Method of Entrepreneurship Bootcamp, learning why an iterative approach is a good way to create ideas.



Figure 5: The development of the method started with a [research paper](#) in 2013.

CET Internal report nr 20140326.

PRELIMINARY VERSION (to be used for collecting comments and remarks). Limited circulation.

Introducing Berkeley Method of Entrepreneurship - a game-based teaching approach

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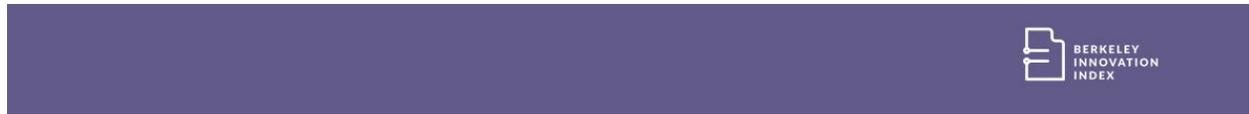
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Abstract: Entrepreneurship is often thought of as the act of commercializing on an innovation. In modern open economies, entrepreneurship is one of the key aspects for economic growth. Teaching and learning entrepreneurship is therefore of importance and schools, colleges and universities can play an important role by including entrepreneurship and innovation in their curricula. The Berkeley Method of Entrepreneurship (BMoE) is a holistic teaching and learning approach that enables engineers to be more entrepreneurial. It encompasses three main elements; infrastructure, mindset and tactics. Infrastructure and tactics are covered in most entrepreneurial curricula, whereas only few curricula explicitly include the mindset perspective. The Berkeley Method of Entrepreneurship (BMoE) is based on the hypothesis that the mindset of an entrepreneur can be characterized by a set of behavioral patterns and that an inductive game-based teaching approach is a successful vehicle for introducing and re-enforcing these. The game-based teaching approach lets the students explore his/her current mindset and compare it with that of entrepreneurs. The paper presents the Berkeley Method of Entrepreneurship, the set of behavioral patterns used and the game based teaching approach.

Figure 6: The Berkeley Innovation Index, <https://innovationindex.berkeley.edu>. This tool helps assess a student's ability to innovate, and shows them the areas where they can improve.



Ind

INDIVIDUAL SURVEY
Know your innovative self.

I + O

INNOVATION + OPERATIONS
Understand your place in the organization.

Comp

COMPOSITE SURVEY
Understand the balance.

BmVS

BMoE VENTURE SCORE
Try the beta version now!

EQ

EMOTIONAL QUOTIENT
Try the beta version now!

Grit

GRIT SCALE
Try the beta version now!
