

Students Use Lean Startup to Tackle Defense Challenges

Peter Newell (BMNT)

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EDITOR'S NOTE: Pete Newell is a nationally recognized innovation expert whose work is transforming how the government and other large organizations compete and drive growth. He is the CEO of BMNT, a Palo Alto-based innovation consultancy and early-stage technology incubator. He is also a founder and co-author, with Lean Startup founder Steve Blank, of Hacking for Defense (H4D)®, an academic program that engages students to solve critical national security problems and gain crucial problem-solving experience while performing a national service.

EIX recently asked Pete some questions about H4D and its lessons for universities and businesses.

About H4D

EIX: Pete, please bring us up to speed on what's happening at the intersection of innovation and defense-related technologies. For the past 8 years, you've been involved in a program called "Hacking for Defense" (H4D). Please tell us about that program.

H4D is a for-credit global course focused on teaching mission-driven entrepreneurship. It has changed how national security problems are addressed, provided students with critical problem-solving skills and has inspired numerous students to pursue careers in the public sector.

The class teaches students to take on real-world problems and try to solve them as if they were startups. The students use the Lean Startup methodology that's been modified to mission-driven type problems. The flipped classroom is intended to help the students learn what it's like to be an entrepreneur by experiencing the friction that comes from actually solving government problems.

H4D is growing high-impact companies. Since the class' inception in 2016, of the 850 H4D student teams that have taken the course, 62 have formed companies (such as Anthro Energy, Learn to Win, Capella Space). Together, they have raised over \$360 million in private funding.

Identifying the Right Problem

EIX: What can H4D teach new companies about using lean startup methodology to develop products or services that solve real-world social and environmental challenges?

The Lean methodology forces students to focus on the problem first -- not on building parts and pieces of an answer -- but really focus on understanding what the problem is, who has the problem, what the various components of the problem are, and then really validate that they're working on the right problem.

Any company that's trying to build a new product must first understand which specific problem they should try to solve by delivering new products.

For companies, the idea that you can't really understand the problem unless you're closely aligned with and engage with your customers means you have to get out of the building. You have to get out and [talk to your customers](https://eiexchange.com/content/startups-need-both-profound-beliefs-and-customer-input) (https://eiexchange.com/content/startups-need-both-profound-beliefs-and-customer-input) – not just do surveys, but really understand the customers' specific problems and then determine whether you have the potential to build a product that solves those problems.

Acquiring Valuable Skills

EIX: What can H4D teach entrepreneurs about looking creatively for talented innovators and working productively with them?

First and foremost, the learning is huge. The students are super responsive to the idea of a flipped classroom,



where they are learning by actually doing something real. Students have an opportunity to use everything they've learned at school to work on a real problem with real people. This is giving them real experience that helps build a work profile portfolio, which is helping them get jobs.

We also know that the mission-driven entrepreneurial skills these students are learning are highly valued in the workplace. They're acquiring the ability to delve into problems and truly understand them, to create hypotheses and tests, and to determine the right things or wrong things to do -- all while learning about the problem itself and about potential solutions. Businesses value these skills, and quite frankly most employees don't show up with them.

Solving Other Real-World Challenges

EIX: H4D worked so well at Stanford. What can other universities' entrepreneurship teachers and researchers learn from H4D about linking their work to real-world problems?

Other universities were quick to catch on! The class quickly grew from a single class at Stanford in 2016 to 63 universities today – including schools in the UK and Australia. To date, 3482 students have worked with DoD mission partners from every Combatant Command. This spring represented the largest cohort of H4 courses ever run. Between the US and UK there are 37 universities teaching 39 courses, supporting 120 student teams with over 500 students. And this year, for the third year, H4D universities have partnered with our allies and universities in the UK and Australia to work on common problems.

We regularly receive requests from entrepreneurship professors wanting to teach the class at their universities.

H4D also inspired several sister classes – Hacking for Diplomacy, Hacking for Oceans, Hacking for Sustainability, Hacking for Recovery – that are having an impact.

In each case, the Hacking 4 classes provide students with an unparalleled opportunity to make the world a better place. We're incredibly proud of the work they are doing.

Learn More

[Six Takeaways for Startups From a Mideast Battlefield](https://eiexchange.com/content/Six-takeaways-for-startups-from-a-mideast-battlefield)
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