

Creative Classes

We're all creative—and with practice, we can all get better, says Stanford professor and author Tina Seelig '79.

Interview by Karen McCally '02 (PhD)

I'm always asked if we are all creative. Of course, we are. We wouldn't be able to pack a bag for a trip or to get dressed for an event if we didn't have the ability to envision things that didn't yet exist.

After teaching courses on innovation and entrepreneurship for the last 18 years, I realized that we often talk past one another because we don't have a shared vocabulary for the creative process. In my latest book, *Creativity Rules*, I take on this challenge, presenting a model for going from the seeds of an idea through implementation, including the attitudes and the actions that are required to move from imagination to creativity to innovation to entrepreneurship.

I call my framework the Invention Cycle. It explains how to engage with the world and then envision what might be different; how to experiment with ideas and to reframe problems to come up with unique ideas; and how to inspire others. It's a cycle because the end leads back to the beginning: to be successful in scaling your ideas, you need to inspire other people's imaginations.

Tina Seelig '79

Tinaseelig.com

Professor of the practice, Stanford University Department of Management Science and Engineering; director, Stanford Technology Ventures Program; author, most recently, of *Creativity Rules: Get Ideas Out of Your Head and Into the World* (HarperCollins, 2017)

Major at Rochester: Interdepartmental studies: neuroscience

On studying neuroscience at Rochester: "Studying neuroscience at Rochester was a profound experience. At the end of my sophomore year, one of my professors in the psychology department, Jerome Schwartzbaum, said, 'We don't know what this particular part of the brain does. Design some experiments that would help determine its function.' And my mind exploded. This was the first time that I was given permission to think creatively about biology. When I got my assignment back, Professor Schwartzbaum wrote at the top of my paper, 'Tina, you think like a scientist!' And at that moment, I became a scientist."

There are exercises you can do to enhance creativity. Yes, there are some people who are naturally more creative, just as there are natural athletes and musicians. But we'd never say that you can't or shouldn't teach sports or music. If you practice any of these skills, you're going to get better. The same is true with creativity. One of the most important exercises is to practice solving open-ended problems, such as "what two numbers add up to ten," as opposed to "what is the sum of five plus five," which has only one correct answer.

It is also critically important to enhance your powers of observation. Most people think that creativity starts with sitting by yourself, envisioning what you want to accomplish, and *then* engaging in making it happen. But the real power comes from turning this idea upside down—engagement is the master key that opens the door to possibilities.

One of my favorite quotes is, "Not all things that count can be counted, and not all things that can be counted, count." Things like creativity—or ethics, or compassion—can't easily be measured. And therefore, most educators don't explicitly teach them. But that's a huge mistake. We need to understand that it may take years before the real impacts of these skills are felt.

In working with companies in Silicon Valley and around the world, I find that often they struggle with how to support the process of idea creation and implementation. A shared vocabulary helps, but it's also important to give people permission to fail along the way. From the top down, you need to celebrate the entire innovation process, and not just the successful results. If you're doing something that hasn't been done before, you're going to have some surprises. And as a scientist, I don't like calling those surprises failures. I like to call them data. I ask my students to keep "failure résumés" to learn how to mine their failures for insights.

I wrote a book titled *What I Wish I Knew When I Was 20* (HarperOne, 2009), which is about the importance of giving yourself permission—permission to challenge assumptions, to break the rules, and to get off the expected path. Most people wouldn't want a script for their lives. It's important to trust the creative process and to appreciate that uncertainty is a gift, knowing that the world is opportunity-rich and full of possibilities. 

