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Can Entrepreneurship Be Taught?

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Can entrepreneurship be taught? Can we teachers actually provide instruction to students that will prepare them for entrepreneurial success?

Yes, of course we can, yes.

But then, why do so many of us keep asking whether entrepreneurship can be taught?

Let me outline answers to both these questions. Can entrepreneurship be taught? And if so, why are we in doubt? We need these answers because successful entrepreneurship is all-important to accelerating America's virtuous cycle of freedom and prosperity. We need to teach entrepreneurship better.

Engineer to Entrepreneur to Professor

To make my long story short, in 1979 I founded a Silicon Valley startup, 3Com Corporation, which in 1984 went public. 3Com developed from an idea, Ethernet, which I invented in 1973 to carry Internet data packets into what we hoped would become buildings full of personal computers. I retired from 3Com in 1990, but by the time the Internet Bubble burst in 2000, Ethernet had become the Internet's packet plumbing standard, and 3Com was doing business in the billions.

After two more ten-year careers, with my bona fides as an entrepreneur in order, in 2010 I started proposing to engineering deans at research universities that I become their professor of

innovation. That's when I really started hearing the question, "Can entrepreneurship be taught?"

In 2011, I started as Professor of Innovation in the Cockrell School of Engineering at The University of Texas at Austin (UT Austin). It turns out that Austin was already a hotbed of technology entrepreneurship, and eager for more. My mission, as I see it, is to help Austin become a better Silicon Valley.

Being a better Silicon Valley worries a few Austinites, who say, "No. Keep Austin Weird." I respond that Austin had better not enter any weird contests against San Francisco. You can be pretty weird and still be Silicon Valley.

To improve Austin's entrepreneurial ecosystem, one of my roles at UTAustin is to teach entrepreneurship. The trick, I think, is for our students to learn it better. Or, to use selling terminology, teaching is a feature; learning is the benefit.

Michael Dell

Arriving Austin in January 2011, the first thing I did was land a front row seat at a UT Austin Longhorn basketball game. At halftime, after the show, I caught sight of a man walking directly toward me across the empty court under the basket. He looked familiar. Who was he?

Just in time I recognized Michael Dell, the UT Austin dropout who had founded in the 1980s what has become today's billion-dollar Dell Corporation. Austin's leading entrepreneur and I had met during the 1980s, the early days of the personal computer industry. His company, Dell, built PCs that my company, 3Com, connected into the Internet. Michael warmly welcomed me to Austin. Over the enthusiastically loud Longhorn

Band, we chatted about the seven-footers then coming back out onto the court.

My halftime with Michael was running out. And so I decided abruptly to begin my new career as Professor of Innovation by blurting out a question that amounted to, "Can entrepreneurship be taught?" Specifically, I asked Michael if, during his short freshman year at UTAustin, he had taken a course in entrepreneurship, been a member of an entrepreneurship society, entered a business plan competition, or got incubated? His first answer, "No," was not very promising. But then Michael smiled and added, "But I wish I had." Whew.

Why do we so often ask if entrepreneurship can be taught? It's because entrepreneurial success seems so elusive. It is achieved rarely, we think, by special people. And the most famous of these, like Michael Dell, dropped out of college before they could be taught much of anything.

During the early 1980s, Michael Dell dropped out of UT Austin to found Dell. Around the same time, John Mackey dropped out to found Whole Foods Market. Both of these dropouts are still in Austin running their billion-dollar startups.

Before them, in the 1970s, Steve Jobs dropped out of Reed College to found Apple Computer, and Bill Gates out of Harvard to found Microsoft. After them, in the 1990s, Mark Zuckerberg dropped out of Harvard to found Facebook.

These fantastic successes speak less about how well universities teach than about the effectiveness of their admissions departments.

The list of college dropouts founding billion-dollar companies goes on, but not very far. Fact is that most successful startups are founded by college graduates long out of their 20s. For example, I founded 3Com with a PhD at age 33 and was for a

time touted as a boy wonder. A 2005 study by the Kauffman Foundation found that 92% of successful technology company founders had college degrees. The outliers make great stories, but they are outliers.

Steve Jobs

Speaking of outliers, one night in June 1979 I was alone in my east coast apartment on Beaver Place in Boston. I had just days before named and incorporated 3Com. I was sitting at the dining room table facing my new IBM Selectric Typewriter. To my left was a new Rolodex, starting to fill up with business cards. To my right was a spiral-bound lab notebook, with numbered, yellow, graph paper pages, into which I was Scotch-Taping clippings, keeping notes, and revising to-do lists. To the right of that, wired across the room to an RJ-11 jack in the wall, was a new AT&T Touch-Tone telephone. It rang.

On the other end of the line was an intense young man named Steve from a personal computer company he called Apple. He'd heard I was the fabulous networking guru at the Xerox Palo Alto Research Center. Big of him. He asked if, on a weekly trip back to my west coast apartment in Palo Alto, I would come visit him in Cupertino to talk about networking his PCs.

Having just founded 3Com, I showed up at Steve's favorite organic lunch spot prepared to sell him an Ethernet for his PCs, which in Apple's honor I called "Orchard." Steve showed zero interest in Orchard, and I somehow managed to escape Steve's "reality distortion field" without accepting a job at Apple.

But then, an amazing thing happened. After I had scorned his offer to join Apple, Steve did not unleash the wrath for which

he would later become infamous. Rather, he followed up to introduce me to his network of role models and mentors, starting with his marketing guru Regis McKenna and then his technology guru, Intel founder, Bob Noyce (RIP). Steve actually escorted me to Regis McKenna's advertising and public relations office on Lytton Avenue in Palo Alto, which featured a big rainbow-colored apple with a bite taken out of it. Steve convinced Regis and me to work together, which got this engineer thinking about positioning, advertising, and public relations. Two years later, Bob Noyce and other friends of Steve led 3Com's first venture capital financing. Two years after that, 3Com got a million-dollar order from Apple to provide Ethernet connections for Apple IIs and Apple IIIs, just before the Apple Macintosh.

Steve Jobs showed up during what I'll call 3Com's "Big Bang" and helped me ramp it up. Even though I was 10 years older and a college graduate, Steve Jobs became one of my most important mentors.

What could Steve teach me? He had dropped out of college. Worse, what Steve remembered about Reed College had nothing to do with courses he did not take in entrepreneurship. In his 2005 commencement address at Stanford, the course he recalled taking at Reed was calligraphy. But Steve understood networks of people. His connections found their way into my new Rolodex and became a critical part of the 3Com story.

Steve (RIP) is of course most remembered for being Apple's monumentally successful founder and CEO, the quintessential entrepreneur. What's often overlooked is that it took Steve 20 years to learn to be an effective CEO of Apple. Yes, Steve founded Apple in 1976, but he did not become its CEO until after rejoining the company in 1996. Being a startup's

founder and being its CEO are not nearly the same thing. Steve too had his mentors.

Big Bang

Little is known about the Universe's first trillionth of a second. But after came the Big Bang, and things started settling down to the laws that physicists think they pretty much understand. Physics can be taught.

So it is with entrepreneurship. Startups have their first trillionths of a second and Big Bangs. Before their Big Bangs, what happens at startups is mostly a dark matter mystery. But what happens after a startup's Big Bang is called "business" and is all about operating the machinery of Free Enterprise.

We have business schools to teach business. Have I mentioned that I am a successful entrepreneur? I am also a graduate of MIT's Sloan School of Management and even attended Harvard Business School for one long year. Business can be taught, and after the Big Bang, that's most of entrepreneurship. QED.

Bill Gates

During 3Com's Big Bang, I met Bill Gates. While I had a PhD from Harvard, Bill had dropped out and was running a small software company in Bellevue, Washington. We were called together to go on an expedition to Chicago to help convince Sears Roebuck to enter the PC business. Bill had specific instructions for Sears about which PC to build. I had visionary stories to tell about the invention of PCs at Xerox Parc and their glorious future, which is pretty much now.

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Microsoft and 3Com would eventually launch a few Internet products together, but what I recall most about my time as a friend of Bill are two people. One is Charles Simonyi, a colleague of mine at Xerox Parc, whom I encouraged to meet Bill and who later earned billions programming early versions of Microsoft Office. The second person is Dave Marquardt, a venture capitalist, whom I introduced to Bill, who didn't need any venture capital. Bill let Dave invest in Microsoft because he wanted Dave's help in taking Microsoft public. What Bill Gates was doing with me is the other, non-Ethernet kind of networking, also practiced exquisitely by Steve Jobs: assembling human resources with which to build entrepreneurial success.

By the way, young Bill and Steve both famously used intimidation in their persuasions. They each painted their visions as inevitable and you a loser if you did not get onboard right then. Being on the receiving end of their formidable intimidations helped me learn that you are not required to change your mind just because you lose an argument. Good arguers are not always right. Best to escape their reality distortion fields and give yourself some time to think things over.

See, entrepreneurship can be taught. That was some right there.

Before the Big Bang

Most of entrepreneurship is business, which can be taught. But then there's what happens before a startup's Big Bang, before the arrival of most of the "founderati" – the many people who play various roles in founding successful startups.

In my experience, the three aspects of entrepreneurship that ignite a startup's Big Bang are ambition, creativity, and

selling. Can they be taught? Again, in my experience, yes, indeed.

In startup education circles, what I'm here calling "ambition" is often called "passion," as in "follow your passion." Ambition and passion are pretty much synonyms, but I'm too familiar with the downside of passion, as in "crimes of passion." I prefer "ambition." Ambition feels more persistent than passion, and more disciplined. Perhaps early technical founders are more passionate than CEOs, who are driven by ambition. Founders are driven to think "out of the box." CEOs must somehow manage their innovative startups back into the box.

Can ambition be taught? Happened to me. Working for Xerox in Silicon Valley, I had role models who proved that reality yields to effort, that there are pots of gold at the end of rainbows. I enjoyed a culture in which entrepreneurs were revered, celebrated, bastions of the community, not enviously called Robber Barons. With models to show that it can be done and how, and with culture cheering you on, ambition emerges. This is one of the long-sought secrets of Silicon Valley.

What about creativity? Too many people think they're not creative. But creativity can be learned. I tell folks to start by taking a different route home each evening. Creativity is something you do on purpose. It's a habit you get into. And it takes practice. But it can be learned. All you need, as creativity teacher Roger von Oech says, is a whack on the side of the head.

The happy fact that creativity can be taught is confirmed by the sad fact that new ideas are a dime a dozen. Most creative ideas do not work out. But, those ideas emerging from deep experience, those taken up with ambition, and those effectively sold, those stand a chance against the resourceful, nasty, and too often victorious status quo.

Which brings us finally to selling. Too many people are afraid even to try. I teach them to start small. First, sell your friends on going to a particular restaurant for lunch. Be ready for "No."

The old saw is that nothing happens until something gets sold. And selling can be taught. Let me prove that by teaching it now:

First you have to believe that selling is a high art worth practicing. Then you have to overcome your fear of "No!" Learn to be ready for rejection. Ask "Why?" and listen hard. Remember that customers do not want better mousetraps (features); they want fewer mice (benefits). Then there's dealing with objections by making and keeping ever-larger promises, building credibility. Finally there's asking for the order, keeping your promises while fulfilling it, and then following up for more orders.

There you have it, my curriculum for selling. Listening is the key skill. God (or Darwin) gave us two ears and one mouth; take the hint. Listening can be taught. I have a lecture on it. An engineer from birth, I started learning selling at age 25. I was appointed 3Com Vice President of Sales and Marketing at age 35. In starting a company you first have to sell yourself. Then you have to sell your co-founders. Then, like Steve and Bill, you have to sell the various networks needed to grow your enterprise. Networking can be taught. And again, the secret is listening. Who has the right stuff? What do they want? Who do they know?

Innovation Breeds Entrepreneurship

So, if entrepreneurship is so important, why am I a professor of innovation? Two reasons: Innovation is a bigger concept than entrepreneurship, and entrepreneurship is too big a word for "starting companies."

Not to get too tangled up in semantics, innovation is the application of new knowledge. There are many forms of innovation that do not involve starting companies. I wanted to take a running start at my new career from way back at innovation. My specialty is startup innovation out of research universities. This is the special kind of entrepreneurial, technological innovation at scale, changing the world, which Silicon Valley does so very well.

But, let's get a little tangled up in semantics because I have a problem with the word "entrepreneurship." The loanword "entrepreneurship" was borrowed from French, and I think it's time we give it back.

First of all, with 16 letters, the word "entrepreneurship" is way too long. Second, in French "entrepreneur" literally means "undertaker," which we Americans cannot resist thinking means "funeral director." Third, France, bitter about French being passé and no longer the world's lingua franca, sporadically outlaws perfectly fine English words – time for revenge. Fourth, if masseurs and masseuses practice massage, then entrepreneurs and entrepreneuses should practice not entrepreneurship, but entreprenage. And fifth, France seems bent on guillotining its few remaining entrepreneurs before they all fly the coop to escape confiscatory taxes. So we have five good reasons to dump the word "entrepreneur." All we need is one.

But, what English word should we use instead of "entrepreneurship?" Let me suggest as a first attempt that we try the word "startupery." This new word has one less syllable and is only 10 letters long, a 37% reduction. Second, it contains the word "startup," which is happening.

So, until further notice, it's not entrepreneurship, it's startupery - operating the machinery of Free Enterprise to form innovative new companies. But, let's not get bogged down in semantics.

Founderati

Startupery is not an individual sport. Teams connected by their networks create successful startups. So instead of asking, "Can entrepreneurship be taught," we should ask, "What various things do we have to teach to whom to increase the flow of successful innovative startups and thereby freedom and prosperity?"

Two roles given much attention in startupery are founders and CEOs. Who are the founders of a startup? During my own NASDAQ initial public offering, the lawyers determined (at great expense) that the founders of 3Com were the two guys who were onboard to receive shares from the first tranche (or slug, if we are to void French) of stock issued on date of incorporation. Team members arriving only the next week were not to be called founders, by SEC lawyers anyway. So, since the word founder has that and other baggage, I came up with the word "founderati," who are the various people involved in many different ways during the glamorous process of creating a startup.

CEOs

Prominent among founderati are of course CEOs – chief executive officers. Every startup has a CEO from the beginning, but often a successful CEO joins slightly later. Whereas the earlier founderati often think out of the box, it becomes the job of the CEO, again, to get the startup's innovation back into the box. In Silicon Valley such CEOs are called "adult supervision."

In my 10 years as a venture capitalist, I learned that CEOs, not ideas, are the limiting factor in startup innovation. Ideas, not to overstate the case, are a dime a dozen. VCs could put a lot more money successfully to work in startups if only there were more skillful CEOs to scale them up.

Shifting Gears

It is rare that a startup gets to scale without a succession of CEOs. I lost count, but Steve Jobs may have been Apple's sixth CEO. Which leads to the observation that as startups grow, they require different skills and often therefore different people. It is useful to think of this as shifting gears. It also implies that at different stages, startuppers need to be taught, or learn, different skills.

If you've driven a car with a manual transmission, then you know what shifting gears is like. In particular, you know how frustrating it feels to lug your engine. And you know what to do before the engine redlines: shift.

A key difference between large established companies and small successful startups is whether the people can keep up with the pace of growth of their company. Successful startups grow

faster than their people. Startup people often redline, their jobs outgrow them, and shifts of gears are required.

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