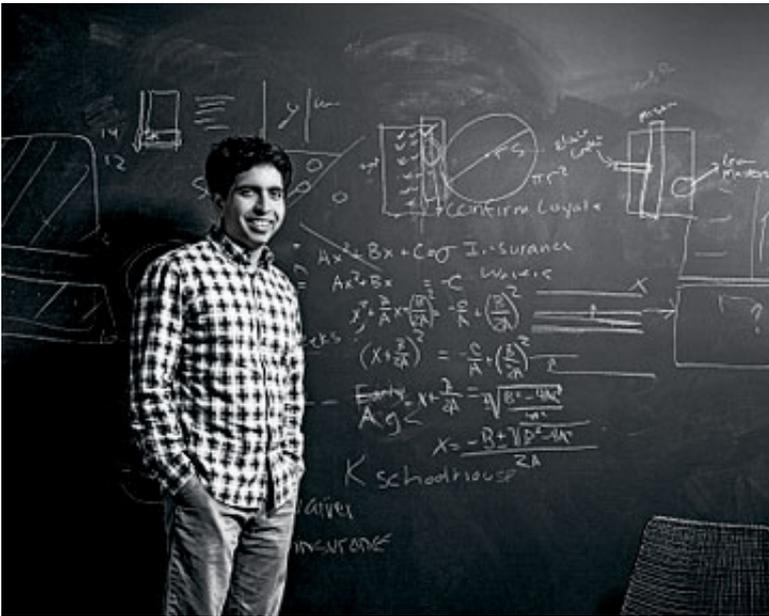


INTERNET

Life's Work: An Interview with Salman Khan

by Alison Beard

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PHOTOGRAPHY: JONATHAN SPRAGUE

Salman Khan was working as a hedge fund analyst when he started using online tools to tutor his cousins in math. Nine years later, his nonprofit organization, Khan Academy, draws on the same approach to offer more than 5,000 free, web-based video lessons to millions of students across the globe, disrupting not only schools but also the education industry built around them.

What are the key concepts students should understand in order to be successful in today's workplace?

The one meta-level thing is to take agency over your own learning. In the traditional academic model, you're passive. You sit in a chair, and the teacher tries to project knowledge at you; some of it sticks, some of it doesn't. That's not an effective way to learn. Worse, it creates a mind-set of "you need to teach me," so when you're on your own, you think, "I can't learn." Anyone in any industry will tell you there's new stuff to learn every week these days. So you have to say, "What information and people do I have at my disposal? What questions do I need to ask? How do I gauge whether I've really understood it?" Khan Academy is designed to give students that agency. If you want to get more tangible, I would say learn how to program a computer, more about the law, and definitely statistics.

In your book, you talk about curiosity being stamped out of kids. How do you bring it back?

Curiosity is a hard thing to squash, but the traditional model of education manages pretty well: Listen to lectures, take notes, feed back what you learned, and then forget it all. You're not allowed to go beyond the curriculum. Khan Academy is all about giving more breathing room. You want to go deep? Go deep. I had this to some degree at the public school I went to in Louisiana, where there were gifted programs. Every day, starting in second grade, they took me out of class for an hour, and I would go to another room, with a mixed age group. The first time I went, I thought it was the biggest racket. I walked up to Miss Rouselle's desk, and she asked, "What do you like to do?" I was like, I'm seven years old—shouldn't you be telling me what to do? But I said, "I like to draw. I like puzzles." She said, "OK, have you used oil paints? Have you done Mind Benders?" Soon I looked forward to that hour more than I did to spending the night at my friend's house. And I learned more that applies to what I do today than in the five other hours of the day combined.

That's what we need to create space for. Historically, it was hard to do in a scalable way. How do you personalize education for 30 kids without breaking the bank? But technology can deliver information at a student's pace, give practice problems and feedback, and arm teachers with data, so that when students go into a classroom, it's much more like what I experienced in that gifted program.

How much of what you've learned about effective education applies to the business world?

The idea that you do K-12, four years of college, maybe some grad school, and then stop learning is a myth. The book applies to lifelong learning: Go at your own pace, master content before moving on, and do it without disrupting your current work and productivity. A lot of corporations, when they do training, mimic the classroom. They create corporate universities; people have to take time off and listen to lectures. But the information and credentials you get coming out of those classes aren't as useful as other things. At Khan Academy, when we hire, it's nice if you have a high GPA and an academically rigorous major. But what we really care about is what you've made. For engineers, show us software you've designed. We also want evidence of how you work with other people, the leadership you exhibit, and what your peers think of you.

Your findings on the limits of human concentration seem relevant too.

We think that because this generation has Facebook, Twitter, and mobile phones, they don't have attention spans. But it's clear from the studies that we never really had the attention spans the classroom-based lecture model expects of students. Especially with dense subject matter, humans can pay attention for 10 to 15 minutes before they zone out. You zone back in for eight or nine minutes, then you zone out again. The zoning in gets shorter; the zoning out gets longer. By the end of the hour you might have picked up 30% of the material—or you might be lost altogether. That has consequences in a work setting, too. If people are meeting, they don't need a lecture; if you don't need them to interact, information should just be in a video or a memo. At Khan Academy, one side effect of that approach is we've created a library of videos that provide background on our thinking, so that we can tell a new employee, "Go watch." We make videos for our board, too, so that everyone can see that historical narrative; then the board meetings are mainly interactive Q&A.

Should every company use videos instead of memos?

There's something you get only from a human voice—little intuitions or parentheticals that people express verbally but for some reason not in a white paper or a memo. It's incredibly valuable.

You've been called the world's teacher. How much of that came to you intuitively, and how much did you learn along the way?

If you're being talked down to in a classroom, or if a lecture is over your head, you feel belittled. As my wife will tell you, I'm hypersensitive to that. When someone uses an even slightly exasperated tone, my reaction is, "Hey, don't talk to me that way!" So when I give a talk, 10% or 15% of my brain is thinking, "Sal, are you sounding arrogant? Are you talking down to people, or above them?"

Also, I've always been interested in really understanding things. When you have a strong foundation, everything falls into place a lot easier later on. I don't say, "Memorize this formula." I say, "This is how my brain thinks about it." I try to make my thought process very transparent; if I'm doing calculus or quantitative finance, I'm not afraid to remind myself of some basic arithmetic.

Your first trial-and-error attempts to teach your cousins remind me of the iterative "lean start-up" model.

You have to do some planning, but you get real information only when you put something out there, observe people using it, get data, and quickly iterate to throw something else out. One thing in my mind is to not lose that.

Now that you have more people, and solid funding, why have you stuck with the same model—your voice against a simple digital blackboard?

When I started making videos, in 2006, I did 10 or 20 as a proof of concept, and, with my MBA hat on, I thought, "I'll get a bunch of other people to make content, because that's the only way to address all the topics I want to." But it was hard to find people to participate, and I realized I could scale up on my own far more than I had assumed. Within two or three months I had done 80 or 90 algebra videos. Then I moved on to geometry and calculus and physics. But I'm clearly not going to be able to cover everything, and people might appreciate a different style. We have a few other folks already doing art history, medicine,

and project-based learning videos, and we've hired a team to build the tools and platform to allow more people to create content. You're going to see content in many languages. You're going to see us going much deeper into interactive experiences.

When your lessons are criticized, how do you respond?

You have to figure out what is meaningful and constructive and what isn't. When someone sends us an e-mail or writes a blog post about something they think is incorrect or unhelpful, and they're right, we annotate or redo the video. That's one of the values of this form over a traditional textbook, where you get little or no feedback. When we put content out, 10,000 people look at it within a week. It's a very fast editorial cycle. We don't have to wait until the next textbook. We can fix it overnight.

Khan Academy is clearly disrupting education. Will you kill off some established players?

Whether or not Khan Academy exists, the world in which a business model is based on charging people for access to information—and not even new information, but 300-year-old science or math—is going away. I think publishers recognize that and see that there are opportunities for them. They already have huge distribution and traction in schools globally. If they turned those schools into registered internet users and customized material for them, the market would value that. It's not 100% clear how to monetize it, especially since we're out here saying that access to learning is a human right. But the writing's on the wall.

At the same time, there are start-ups trying to imitate your model on a for-profit basis.

The more dollars thrown at the problem, the better. If a for-profit player gives away part of an education in order to attract customers, that's a win for everyone.

Why did you set Khan Academy up as a nonprofit?

In the for-profit realm, a home run is to scale big, get 100 million users, and go public or get acquired. That would have been good for me individually and for our investors. But it felt a little wrong, because I wanted our content to be accessible to all people, for a long time into the future. Beyond your generation, do you have confidence that a for-profit will stay true to its mission? The institutions that have had global reach over multiple generations have been not-for-profits. That's a home run in that sector. And maybe Khan Academy can be one of those. In terms of its advantages, we get goodwill. There are 51 people in the organization, plus thousands of volunteers, and we're attracting some of the best in Silicon Valley: McKinsey folks, people from Google and Facebook, one of the leading quant fund guys, the world's top Java script programmer. These incredible people come for the mission, not even realizing that we actually pay pretty well. So we're getting a caliber I don't think anyone else can.

What kind of boss are you?

It's an exciting and hard challenge: How do you have a flat and nimble structure? How can you be approachable but also have authority? How do you make sure people's voices are heard while correcting something you feel is going in the wrong direction? Every manager has to plot his own trajectory and be as open to feedback as possible.

Eventually you're going to run into another classic management problem: You're the face of the organization. Can the Academy exist without you?

Two years ago that would have been impossible. Even now a lot of the press narrative is about me tutoring my cousins and making videos. But that's starting to change, because people see our interactive platform, which was clearly worked on by people other than me. As we bring other content creators on board, my hope is that I can continue to be a valuable evangelist for what we're doing. But if, God forbid, I get hit by a bus, Khan Academy should survive. We have a deep bench. I'm the least impressive person in the organization.

A lot of us dream of leaving our jobs to do something good for the world. How did you decide to take the plunge?

I really enjoyed my hedge fund job; it was far more thought provoking and intellectual than people might assume. But I also found a lot of satisfaction working with my cousins, writing the software, and making the videos. So in the back of my mind, I thought I would become a portfolio manager, have my own fund, and maybe 15 or 20 years in the future, on my own terms, fund a school. As anyone in investments will tell you, you have bad days, and you think maybe you should do your hobby full-time. But then you remember you don't own a house, you have a baby on the way, and you haven't paid off your or your wife's student loans, so you stop dreaming. I'd been part of the dot-com bubble, and I found it so exhausting emotionally that I told myself entrepreneurship was not for me. So when I started Khan Academy, I said, "This is a hobby. This is a passion. This is fun." And I protected it that way as it developed. I thank my old boss, because he thought it was valuable for us to have our own lives, and that created a space for Khan Academy to blossom. When I took the plunge, it was significantly de-risked. By 2009, 100,000 people were using the videos, we'd been on CNN and in *USA Today*, and I was starting to talk to philanthropists. So I sat down with my wife and said, "Let's give it a year. If I can't get it off the ground, I can go back to my old job." Nine months in, things started to happen.

You're backed by the likes of Bill Gates and Carlos Slim. What have you learned from them?

All of them, even though they sit on top of empires, go deep and try to understand things themselves. They're very hands-on. And they're incredibly curious. The first time I met Carlos Slim, we sat on a beach for four hours and talked about what civilizations existed during previous interglacial periods. These people are big thinkers. Seeing that has given me the confidence to let my epic juices flow, so to speak—to indulge my science fiction, delusional dreams. You have to, for some of your stuff to become a reality.

Your wife is a doctor, and you have two young children. How do you balance work and family?

I set hard lines. Weekends are for my family. I do not touch the computer unless it is an absolute emergency. When I come back on Monday, I'm refreshed and productive. The same goes for evenings. I've been up on stage at speaking events and said, "I have to go

give my kids a bath now,” and everyone is shocked. But if I can’t have dinner with my kids, give them a bath, and read them a book before bed, something is wrong in my life.

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