7 Tips For Raising Entrepreneurial Girls

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One of the most far-reaching changes we can make for our children and their future is to establish entrepreneurial life skills as a core competence for all students, beginning as early as kindergarten and continuing through high school. This is especially true for girls, who suffer from gender bias in many ways.

When girls are introduced to, and begin to develop, entrepreneurial skills at a young age, their brains expand and form new neural synapses in response to challenges and problems. The girls become accustomed to meeting challenges. They learn to employ the “curiosity cycle,” building foundations of knowledge on which they can expand as they follow their curiosity. They learn what it takes to achieve mastery in any field. They learn to become creators and builders and entrepreneurs.

In particular, we need to make a concerted effort to engage girls in learning about entrepreneurial skills and the scientific and technological know-how that support those skills.

Programs that stimulate girls’ creativity and enterprise vividly illustrate what can happen when restrictive stereotypes are shattered. “Young girls are change agents,” says Reshma Saujani, founder and CEO of Girls Who Code, an organization that has brought relevant computer-science experiences into the lives of tens of thousands of girls nationwide, inspiring many of them to pursue studies in technology and engineering. Saujani has seen girls who’ve been introduced to entrepreneurial possibilities grow into women who want to drive change: “They look at the world and ask, how can I make it better?”

Here are seven tips for helping to kickstart an entrepreneurial spirit in girls.

1. Make Play Time Curiosity Time

Curiosity is one of the most vital instincts in every human being. Curiosity nurtures crucial strengths such as resilience. Curiosity plays a key role in generating adaptive capability.

A girl who's in touch with her natural curiosity can engage and entertain herself without requiring external stimulation like television and video games. Through curiosity, she sharpens her ability to ask questions, she follows her inquisitiveness, creates predictive models, tests them, and repeats the cycle, but with more information and new insights. A curious girl who knows her own mind is less likely to sink into passivity. She is more likely to define herself as an *active creator*.

In my work with VentureLab, I've had many opportunities to watch kids follow their curiosity instinct, often with magical results.

One 9-year-old girl named Emma worried that her pet mice were not sufficiently entertained by the toys in their cage. She often added extra sticks and playthings in an effort to keep her mice engaged and happy, but she still believed there had to be more to their little lives. Her curiosity instinct kicked in. Emma wondered whether she could design a more interesting environment, and then how she might determine if the mice liked it.

Luckily, Emma's mother understood and supported her daughter's curiosity. She provided the tools to make Emma's project possible. Emma ended up creating a maze that challenged the brains of the mice. It also became an exercise in science and statistics as Emma studied which direction the mice would turn, right or left, when they came to a T-shaped intersection with no clues about which way to turn. This all transpired because her mother applied what she herself had learned in an entrepreneurial workshop, and had passed on that enthusiasm to her daughter.

2. Get Messy!

Whenever women in science or technology reminisce about girlhood, they remember the joy of getting dirty. Many of us who've grown up to be scientists and engineers recall spending more time in jeans than in dresses. And a lot of us loved playing with mud.

Today's VentureGirls are no different. Says 9-year-old Jessie, "I love squishing mud between my fingers." Her mother—who also loved playing in the mud as a child—has learned to repress her parental impulse to say, "Clean up!" She understands instead that Jessie is learning by touch and observation (and by getting dirty). As Jessie advances in science, her playing with mud will lead her to understanding such scientific concepts as viscosity, textures, and adherence. In addition: mud is fun!

3. Let Girls Appreciate Failure and Learn from It

When Sara Blakely was growing up in the 1970s and 1980s, dinner conversations at her house had an unusual twist. Each night, Sara's father would ask her, "What have you failed at today?" He was teaching Sara the value of failure as a tool for discovery. He showed that failure can be a way of figuring out new skills that can make you more competent, more insightful, and more powerful tomorrow than you are today.

By the time she entered college, Sara Blakely was steeped in the positive notions of failure and had become experienced at rebounding from setbacks. She had a sunny outlook and the sort of confidence that came not from straightforward achievements, but from facing down failures and unearthing the lessons they could yield. After she scored poorly on the Law School Admissions Test, which ruled out the law career she'd dreamed of, Sara decided instead to become an entrepreneur. She ended up as the first self-made female billionaire in U.S. history.

Sara's saga, like those of many entrepreneurs, began with identifying a need and addressing a problem—the visible panty lines that spoil the smooth, shapely lines most women want to achieve. Sara went about figuring out how to create an article of clothing that could give women what they wanted.

It wasn't easy. It took a year for her to come up with a satisfactory prototype for a new kind of line-smoothing undergarment. When she tried to interest the established, male-dominated undergarment manufacturers based in North Carolina, she struck out everywhere—until one mill operator got back in touch with her because his daughters liked Sara's idea. Since she was unable to afford a patent attorney, Sara wrote the first patent application herself. She even improved one of her demonstrations, and invited a Neiman Marcus representative into a restroom to show how her product worked. Sara ended up making the sale.

Today, Sara’s invention is the cornerstone product of one of the world’s fastest-growing apparel brands—Spanx.

4. Channel a Girl’s Idealism

We too often associate entrepreneurship solely with business success, and particularly with generating wealth. There’s nothing wrong with wanting to build a big, profitable company, but not all entrepreneurs are motivated by money. Many are passionate about making the world a better place—and research shows that this is especially true of women and girls.

Take Estrella Hernandez. When she was 13 years old, she began to learn about the dangers of childhood obesity from her father, a volunteer with the mayor’s fitness council in San Antonio, a city with one of the largest populations of overweight people in the U.S. The health of some members of Estrella's family had also been compromised by their being overweight, and Estrella didn’t want to see her generation follow that path. Her outsized wish: to end childhood obesity.

Estrella thought, “What if I could come up with a solution to the problem of childhood obesity?” Her father discovered VentureLab and enrolled Estrella in a one-week VentureLab Entrepreneurship Camp 101. It sparked her entrepreneurial spirit and unleashed her creativity. Estrella and four team members created a phone app that would reward kids with points for walking, points that could be redeemed for things that kids want, such as video games. The more kids walked, the more they would be rewarded.

After the weeklong camp had ended, Estrella continued to work on her project. She eventually won a scholarship to a program that helped her with the nuts and bolts of taking her phone app to the next stage. Estrella was already bilingual in English and Spanish, but she now learned a different kind of language: coding. And she began to write code, developing a working prototype. Estrella took her project all the way through to pitching it to investors. She raised over $200,000 in funding for her start-up.

Estrella’s story illustrates how teaching girls entrepreneurial skills can unlock their interest in science and technology as they see how it can be applied to meaningful real-world problems.

5. Help Girls 'Scamper' to Creativity

Mastering entrepreneurship isn’t just about developing the right attitude. It’s also about learning to use tools that can help you address challenges and discover fresh approaches to seemingly intractable problems. You know that you are cultivating curiosity when it ricochets into creative problem-solving. Creative thinking is so fun and entertaining—so stimulating to the brain—that there is no necessity for trophies—the creativity is its own reward.

In an entrepreneurial classroom there must be freedom to imagine, to follow curiosity, to think big, to create, surprise, express, fail, and to have the space so that the brain can grow new neural pathways—or the classroom experience becomes hollow, rote and even dreaded. This is why we encourage girls not only to think creatively, but to think creatively beyond the particular ideas that they’re refining. We’ve developed a program known as S.C.A.M.P.E.R. that encourages girls to explore their ideas from different angles, which can spark even-better ideas.

S.C.A.M.P.E.R. is a mnemonic we use at VentureLab so that girls remember the entrepreneurial strategy that stimulates new, often better ideas:

- **S**ubstitute. What materials or resources can you substitute or swap to improve the product?

- **C**ombine. What would happen if you combined this product with another, to create something new?

- **A**dapt. How could you adapt or re-adjust this product to serve another purpose or use?

- **M**odify. How could you change the shape, look, or feel of your product?

- **P**ut to another use. Can you use this product somewhere else, perhaps in another industry?

- **E**liminate. What features, parts or rules could you eliminate?

- **R**everse. What if you try to do the exact opposite of what you're trying to do now?

One of the benefits of entrepreneurial learning is the unpredictable quest for knowledge that comes from researching your ideas, and thinking how things can be bettered, changed, reworked and refined. S.C.A.M.P.E.R. fosters that way of thinking in girls.

6. Get Dad Involved

When it comes to raising girls with the curiosity, the courage and the gumption to embrace their inner entrepreneurs, moms can play a crucial part as role models, facilitators, and cheerleaders. But dads also really matter—especially in today's world, where most of the people who are deeply engaged in business leadership and technology creation continue to be male.

Experience has shown us what happens when dads embrace teaching their daughters about technology and entrepreneurship. Dads tells us that their daughters are surpassing their expectations, that they’re creating inventions in their garage and even talking about selling their products. Such dads are a critical means for providing exposure, engagement, and encouragement for their daughters' success in life.

Consider Mary Barra, who made history when she was named CEO of General Motors in 2014. She is not simply a woman at the helm of a $150 billion company, or the first women to lead a major automaker. She is an electrical *engineer*. Barra joins the slim ranks of CEOs who come not from finance, but from product design and manufacturing. Mary Barra might seem most comfortable on the shop floor: She *makes* things. And her father helped her realize her potential not only to explore her engineering talents, but to think even beyond those considerable gifts and how she could be of service to others. (In 2014, Time magazine named her as one of the 100 most influential people in the world.)

Barra’s father worked for GM’s Pontiac division, where he was a journeyman die-maker and a member of the United Auto Workers union. He helped his daughter explore her interests as she grew: When her curling iron broke, for example, she and her father took it to their basement workshop. They took it apart and tried to put it back together—which didn’t always work out. But no matter—the activity, and the interest her father showed in doing this with her, sparked her interest in how things worked, what made them run, how the pieces fit together: the rudiments of engineering.

She began her career at GM when she was 18, as a student, and moved ahead in a variety of engineering and administrative positions that included managing the Detroit/Hamtramck Assembly plant, then becoming vice president of global manufacturing engineering, vice president of global human resources and executive vice president of global product development, before becoming CEO in 2014, a remarkable trajectory fueled by native talent and the encouragement of a devoted and boundary-breaking father.

The fathers of many successful women in science and technology encouraged them in their endeavors, and helped them overcome the restraints that society still places on women in sciences.

7. Start Her Young

How old must girls be before they're ready to learn entrepreneurial skills? Should they be 10 years old, or 8?

Try age *5*.

One 5-year-old at VentureLab had a problem that kept landing her in time-out. She shared it with the other pint-sized participants in her entrepreneur camp. "I get in trouble for eating Play-Doh," she said. "My mommy says it's bad for my tummy." Others chimed in, agreeing that, yes, eating Play-Doh could be a problem. This prompted a spirited discussion among the group: If Play-Doh is bad to eat, why is it so irresistible? And what can we do about it? Even children who had never been daring enough to taste Play-Doh had seen other children do it. Something about Play-Doh made it seem like a food choice. Could these children think of possible solutions that could keep their classmates out of trouble?

Out of the fertile minds of 5-year-olds sprang the idea of "edible Play-Doh."

VentureLab guided them through market research as they surveyed other children—girls and boys—about their favorite colors and flavors. The girls tallied their findings to come up with an edible sort of Play-Doh that tasted of chocolate-chip and pink strawberry. A camp counselor bought ingredients, helped the girls to create a tasty recipe through trial and error, and packaged it according to the specifications that the 5-year-old girls had determined would best appeal to other children.

They named it "Tasty Doh." At VentureLab, we helped them create a website and post their photos and pricing online. On the last afternoon of camp week, the girls pitched their product and website to their parents, and each child in the group left with over $10—a windfall that they proudly earned.

So, yes: Girls as young as 5 can jump right in

Our popular culture can be crushing to girls' confidence. But learning entrepreneurial skills builds girls' confidence. That's a gift that will help

them become more successful in life no matter what career path they ultimately pursue.

Most people understand that the economic and cultural success of the United States has been based on the country’s entrepreneurial spirit. For that reason, you might assume that the U.S. must lead the world in teaching entrepreneurial skills to our young.

What can we do to prepare our young people for the economic swells and falls of the future? How are we equipping them to start and lead the technology companies of the future?

Let's start early by encouraging girls to be entrepreneurial. Not every girl will become an entrepreneur, of course. But every single girl who is encouraged to be an independent and creative thinker benefits every one of us.

About the Author

Austin native Dr. Cristal Sanchez, PhD, is a scientist, entrepreneur and mentor, with a passion for teaching and engaging girls in technology and entrepreneurship. She is the Founder and CEO of VentureLab, a nonprofit organization that runs experiential learning programs in youth tech entrepreneurship. Dr. Sanchez recently served as the Director of the Center for Entrepreneurship at Trinity University. Prior to that, she founded a nanotechnology company that fostered a new way of delivering medicine to the body, and ran the Idea to Product Program at the University of Texas at Austin.

Over the years, Dr. Sanchez has worked in intellectual property, technology commercialization, and product development. She received her B.A. in Plan II, B.S. in Mechanical Engineering, and M.S. and Ph.D. in Biomedical Engineering from The University of Texas at Austin, where she was recently a featured alumni. In addition, she holds two doctoral certificates in Nanoscience and Nanotechnology, and Molecular Imaging for Diagnostic and Therapeutics.

Dr. Sanchez's work has been featured in the Wall Street Journal, the TODAY Show, NPR's The TakeAway, Mashable, Medium, Silicon Hills News, Rivard Report, San Antonio Express-News, and San Antonio Business Journal . In 2014, she starred in the AOL Jeep Documercial, "Side Streets", which highlighted VentureLab, and San Antonio's entrepreneurial spirit. That year, she was also a selected speaker at TEDx San Antonio, where she inspired others with her personal story, "From Stand-up to Start-up: Growing Girl Techies and Entrepreneurs." Dr. Sanchez was also named "Woman of the Year" by the San Antonio Business Journal (and she was named one of the 40 Under 40 in the journal's annual

awards). In 2016, she was also a featured speaker at SXSWInteractive and SXSWEdu.