

Girls, Coding, and the Freedom to Fail: A Guest Post From *Click'd* Author Tamara Ireland Stone

by B&N Editors/August 31, 2017



Ask your favorite authors where they get their book ideas, and you'll probably hear them say something like, "anywhere and everywhere." That's certainly true for me. In fact, the idea for my new middle-grade novel, *Click'd*—a story about a seventh-grade girl coder—came from a rather unlikely place: a garage.

See, that's where I learned how to build computers.



Back in Silicon Valley in the early '80s, my dad worked for a company that assembled some of the first PCs. He often brought his work home with him, and when he did, I got to help (and make a little extra money). The two of us spent hours out in that cold, cluttered garage, where he taught me how to crimp wires, solder them to the motherboard, and then test each connection to be sure it passed quality control.

The work wasn't easy. My hands hurt after a while. And inevitably, after testing all the parts, some of them would fail. I'd have to take those apart and start all over.

I vividly remember fixing those mistakes with tears of frustration in my eyes. I remember wanting to quit. But my dad would patiently talk me through it. Eventually every part would pass, and the sense of accomplishment would overshadow all those little setbacks along the way.

I've been telling that story for years, applauding my dad for teaching his *daughter*—not only his sons—how to build things in the garage with potentially dangerous tools. But in writing *Click'd*, I began to realize that I took even more away from that experience than I initially realized.

Click'd is about a fiercely-determined girl named Allie Navarro, who creates an app to help people make new friends. She plans to share it with a small group, but then things get out of hand and *Click'd* takes off, spreading faster than she ever expected.

I never rescued Allie. I let her fail. And I let her rescue herself. Because in a world where girls often feel an expectation to be perfect, I want readers to see examples of girls who are allowed — even expected — to fail, and fail spectacularly.

She gets caught up in the moment. The whole school is playing her game, and for the first time, everyone knows who she is. She feels like a superhero and a rock star all rolled into one.

So, when she discovers a glitch that threatens to expose people's secrets, the last thing she wants to do is shut *Click'd* down. She wants to fix it quickly and quietly.

At first, Allie tries to hide the error, but that only creates an even bigger issue. She creates a workaround, but that only solves the problem temporarily. She thinks she's found the mistake in her code, but when she fixes it, she creates a totally new issue.

In other words, Allie fails. She fails a *lot* in this story.



Author Tamara Ireland Stone

And that's one of the things I love about coding; it's inherently about trial-and-error. By its very nature, coding teaches kids that it's okay to make a few mistakes before you get it right, and I believe that's more important than ever, especially for our girls.

According to this [recent article in TIME Magazine](#), girls tend to respond to failure differently than boys. When girls make mistakes, they're more likely to interpret the setback as a sign that they lack *ability*, whereas boys tend to attribute failure to external, *fixable* circumstances. This idea of "stereotype threat" leads girls to believe that they are "bad" at math and science, which can lead to underperformance in STEM-related subjects.

The article goes on to say that, "Rescuing girls from failure makes them lose motivation—even more than boys."

TAMARA IRELAND STONE writes young adult and middle grade novels. Her *New York Times* bestseller, *Every Last Word*, won the Cybils Young Adult Fiction Award, the Georgia Peach Book Award, the Buxtehuder Bulle German Youth Literature Award, and was a YALSA Teens' Top Ten pick. She is also the author of *Little Do We Know*, *Time Between Us*, *Time After Time*, and the *Click'd* series. Before she began writing fiction full time, Tamara spent twenty years in the technology industry. She co-founded a woman-owned marketing strategy firm where she worked with small startups as well as some of the world's largest software companies. She lives in the San Francisco Bay Area.

So, I never rescued Allie. I let her fail. And I let her rescue *herself*. Because in a world where girls often feel an expectation to be perfect, I want readers to see examples of girls who are allowed—even expected—to fail and fail *spectacularly*.

I haven't built a computer in decades, but those hours in the garage with my dad taught me a lesson I use every day. I'm a writer, and writing and coding have a lot in common. Both are like puzzles; you know what you want to create in the end, but getting there is often a huge challenge, filled with small victories and defeats along the way. Both are all about trial and error. With every novel, I write and delete, and write and delete, and I often feel like I'll never figure out how to make the story work. With each project, there are multiple times I want to give up. But I don't.

And I have my dad to thank for that. Because failure was never a "bad" thing. Mistakes were always fixable. I had permission to take chances, to be brave.

Click'd is about a girl coder who falls a lot before she finally flies. If Allie's story inspires kids to try coding, or dancing, or painting, or playing a new sport—*anything* they might be afraid of failing—it will have accomplished everything I hoped it would.

Click'd is on B&N bookshelves September 5. EDITED TO ADD: *The sequel, Swap'd*, on B&N bookshelves February 4, 2019.



Girls Crack Coding in New Projects from Penguin and Disney

By Shannon Maughan | Jun 01, 2017

Coding—or computer programming—is ubiquitous in our everyday lives. But when it comes to actually teaching this skill, the U.S. educational system isn't in step, with only 40% of K–12 schools teaching the subject. And girls and women are dramatically underrepresented in the coding arena. Though tech jobs comprise one of the country's fastest-growing employment sectors, fewer than 18% of computer science graduates at the college level are women.

Disney Gets 'Click'd'



Author Tamara Ireland Stone

Back in the day, bestselling YA author Tamara Ireland Stone was one of the proud, the few—girls who code. “I grew up in Silicon Valley and worked in the tech industry for almost 20 years, and for a long time, I've been passionate about getting girls excited about S.T.E.M.,” she says.

That experience was a big part of inspiring her new novel for middle grade readers, *Click'd* (Disney-Hyperion), which launches a series.

“The idea [for the book] actually came from my sixth-grader daughter,” Stone says. “We'd been talking about her worries around starting middle school, most of which centered around friendships—tricky things like making new friends while holding on to the ones she'd known all her life. Separately, and seemingly unrelated, she was interested in attending coding camp that summer, so I began researching camps designed specifically for girls. One day, the two ideas merged in my head and *Click'd* was born.”

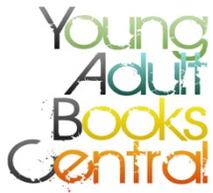
In the novel, her protagonist, Allie, creates a popular app that she thinks will bolster her friendships, but then discovers a glitch that could ruin everything. Stone notes, “Writing this series gave me a chance to go back to my tech roots with a fun friendship story that I hope will also get young women excited about coding.”

Though she sometimes wonders what her life might have been like had she majored in computer science in college instead of journalism, Stone believes her current career path shares many similarities with the tech field. “Both are all about trial and error,” she says. “Sometimes the writing or the code works and sometimes it doesn't. When it doesn't, you have to pull it apart piece by piece, find the error, and start over.”



And Stone cites another key connection between writing and coding. “They are both kind of like puzzles,” she says. “You know what you want to create in the end, but getting there is often a huge challenge, filled with small victories and defeats along the way. But when you're done, when you see your game or your app or your story or your novel come together, it's a feeling of euphoria like no other. And frankly, it's addicting. I think that's what keeps us writers and developers coming back for more.”

[NOTE: This article was edited to reduce its size, but no content was changed.]



Spotlight on Click'd by Tamara Ireland Stone

Thursday, 18 May 2017 | Kayla King, Staff Reviewer | News & Updates

I've never been a big fan of gender roles. When I was a little girl, I played with Matchbox cars *and* Barbie's. I rode a bike *and* a skateboard. I climbed trees *and* played dress-up. I hung out at the mall *and* at the arcade. And I spent as much time baking in the kitchen as I did at the workbench in the garage. It never occurred to me that there were things I was "supposed to do" or "not supposed to do" because I was a girl. Luckily, that stuff never occurred to my parents either.

One day when I was eleven years old, my dad found me at that workbench in the garage and asked me a simple question that changed my life: "Do you want to help me a build computer?"

I grew up in the early days of Silicon Valley, and my dad worked for a company that built some of the first PCs and game systems. He often brought work home with him to make a little extra money. "I'll pay you for every component you build that passes quality control," he'd told me. "If it fails, you'll need to fix it."

I was in. And that's when my fascination with technology began. That first job turned into another, and another. The two of us worked together every day after school in the garage, where he taught me how to use a wire stripper, a crimping tool, a heat gun and eventually, a soldering iron.

It wasn't easy work. It required patience (not my strong suit). My hands hurt after a while. But deep down, I loved the focus the job required. I found it strangely rewarding. And when my dad surprised me with a brand-new IBM 5150 and told me *I'd* built it, I was bursting with pride.

I spent much of my free time the following year in front of that computer. I played games. I taught myself some basic coding and wrote a simple recipe app for my stepmom. My friends didn't really *get* it, but I didn't care.

Then suddenly, one day, I did care. A lot.

And that's when I stopped coding and working with my dad in the garage. I probably stopped hanging out at the arcade and riding my skateboard, too.

Like me, many girls start out with a passion for technology, but lose it as they near high school. According to [a study](#) by the Girl Scout Research Institute (GSRI), 74% of girls express interest in Science, Technology, Engineering, and Math (STEM) in middle school. Yet, according to *The New York Times*, only 0.4 percent of all female college freshmen say they intend to major in computer science. The biggest drop off happens between the ages of 13-17.

It's a depressing statistic, but a pattern I recognize firsthand. And when I started to see own daughter and her friends begin to lose interest in their STEM-related passions, it hit me hard.

These were the same girls who spent months preparing for the science fair, hours playing Minecraft online together, and came home bursting with excitement about the Hour of Code program at their elementary school. I wasn't ready for my daughter to lose interest in technology—we'd barely skimmed the surface! So when she expressed interest in a summer coding camp, I jumped on it as fast as I could.

I was thrilled to find a program exclusively for girls, but despite her initial excitement, she didn't enjoy that first day of camp. She didn't know anyone, and she was afraid she'd spend the whole week alone at her desk. But when I picked her up after the second day, she was giddy. As it turns out, they'd spent the whole day coding while singing every song from *High School Musical*. The next day, they covered the *Pitch Perfect* soundtrack. And that was all it took. She'd made friends. And by the end of the week, she'd made an amazing game.

According to a study by the Girl Scout Research Institute (GSRI), 74% of girls express interest in Science, Technology, Engineering, and Math (STEM) in middle school. Yet, according to The New York Times, only 0.4 percent of all female college freshmen say they intend to major in computer science. The biggest drop off happens between the ages of 13-17.

Computer science and engineering degrees offer the highest incomes *and* the most work flexibility—two attributes widely cited for attracting women to traditionally male-dominated fields. But the number of women in computer science is still on the decline. [Girls Who Code](#) estimates that by 2020 there will be 1.4 million jobs available in computing related fields, and women are expected to fill just 3% of them.

I'm doing everything I can to keep my daughter excited about technology, but it's not enough. I want *all* girls to be excited about it. I don't know how to code, so I'll let organizations like [Code.org](#), [Girls Who Code](#), [Black Girls Code](#), and [Made with Code](#) take the lead on that part. I'm hoping to make a difference using the tool I know best: storytelling.

In my new middle-grade novel, CLICK'D, Allie Navarro plays soccer *and* loves coding. She's surrounded by positive female role models, like her computer science teacher and a dynamic software company CEO. Her computer science class is diverse and gender balanced. And Allie's parents treat coding the same way they treat her sport: as a passion to be nurtured, not a passing hobby.

Like coding itself, CLICK'D has many moments of triumph, but there are also plenty of setbacks, and that's intentional. In a world where girls often feel an expectation to be perfect, I want readers to see examples of girls who are allowed—even *expected*—to fail, and fail *spectacularly*.

Meet Tamara Ireland Stone



TAMARA IRELAND STONE is the author of *Time and Time Again*, a collection of her two novels *Time Between Us* and *Time After Time*, and the *New York Times* best seller *Every Last Word*.

A Silicon Valley-native, she has worked in the technology industry all her life, first testing Atari game boards in her parents' garage, and later, co-founding a woman-owned marketing strategy firm where she worked with some of the world's largest software companies. She enjoys skiing, hiking, and spending time with her husband and two children. She lives in the San Francisco Bay Area.

Visit her online at TamaralrelandStone.com, on Twitter @tamaraistone, and on Instagram at @tamaraistone.

In writing CLICK'D, I've thought a lot about those hours I spent in the garage with my dad, and I've realized something important. He wasn't just teaching me how to build computers. He was teaching me how to fix my mistakes, one at a time. He was empowering me to follow my passions, regardless of gender "norms." He was telling me I could do *anything* I set my mind to.

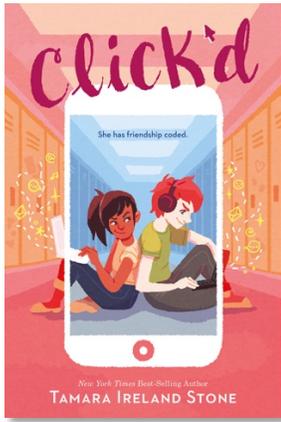
And I'm eternally grateful to him. Because I haven't picked up a soldering iron in years, but I use *those* lessons practically every day.

Meet Click'd

Seventh-grader Allie is thrilled that the app she built at CodeGirls summer camp has gone viral. The app, Click'd, pairs users based on common interests and sends them on a fun (and occasionally rule-breaking) scavenger hunt to find each other. Now, she even has a shot at beating her archenemy, Nathan, at an upcoming coding competition. But when a glitch threatens to expose everyone's secrets, Allie has to fix the app, win back her friends, and even work with Nathan. Can Allie find the problem in her code before she steps on stage to present Click'd to the judges? CLICK'D is a fun and empowering story of friendships, coding, and lots of popcorn.



Backmatter includes information on educational resources from Code.org, a non-profit dedicated to expanding access to computer science and increasing participation by women and underrepresented minorities.



Book #1 • Now in paperback!

Allie Navarro is having the time of her life when the mobile app she built at summer camp goes viral at her middle school. But she's in for a lot more than she ever expected when she discovers a glitch that threatens to expose everyone's secrets.



Book #2 • New release!

The second book in the popular Click'd series weaves together middle school friendship, first crushes, and serious coding skills in another fun, fast-paced, and empowering novel that will have readers cheering Allie on from the first page to the last.



Educators: Visit Tamara's website to download the FREE Teacher's Guide!

*Florida's Sunshine State Young Readers Award | Cybils Award Nominee | Kids' Indie Next List Pick
Northern California Independent Booksellers Association's Golden Poppy Award Nominee*

"Packed full of middle school drama—best friends, arch enemies, cliques, crushes, and sports—this novel will surely please..." – *School Library Journal*

"Stone has a talent for pacing and this quick-moving story will keep young readers interested until the end. The immersive middle school setting and supportive cast of characters are fun and enjoyable." – *Deseret News*

"I'm a sucker for stories about real kids who make mistakes and learn from them. Thumbs way up." – Jen Naughton, *Geek Reads Kids*

"An amazing middle grade novel that reminds girls that they can do anything—including take on the tech industry! Written by an author who knows her way around code, *Click'd* combines a fun and easily relatable story with a great message that young readers will hopefully take to heart." – *Nerdophiles*

"Click'd has taken over my classroom in the most amazing way! A ton of my reluctant readers gave it a shot and finished it in days." – *Michelle Ready, Middle School Teacher*

"I absolutely loved this book from start to finish... I especially appreciated reading a book about coding that is aimed at girls, but that boys can enjoy too. This is an absolutely essential pick for middle school and upper elementary readers." – *Tara C., Librarian, Kiss the Book*