CHAPTER 1
REWIRING

If we teach today as we taught yesterday, we rob our children of tomorrow.
—John Dewey

The term digital native was introduced in a paper written by entrepreneur and author Marc Prensky in 2001, and is generally applied to anyone born after 1979. It describes those in the first generation to grow up in a digital world of personal computers, electronic games, tablets, and eventually cell phones. Today’s high school students, for example, were born after the launch of Google and have never even known a world without the internet. They may have never used a library
card catalog (or even a library card), choosing instead to rely on instantaneous web-based sources like search engines, Wikipedia, or YouTube for answers. New graduates were still elementary students when the original iPhone was introduced in 2007; today four out of five seventh-graders have their own cell phones and are using a wealth of content and apps that are available to them 24/7. The importance of this change is not just about the power of the devices, but about the platforms and ecosystems that bring the devices to life. Some refer to the digital natives growing up today as the “app generation.” While I often hear adults refer to modern technology as a “tool,” digital natives see it as just a part of their environment, no different than how my generation perceived technologies like electricity. As a child, I didn’t use electricity; electricity just existed.

Because of this, Prensky says, “digital natives think and process information in a fundamentally different way than their predecessors.” Many cognitive neuroscientists disagree, arguing instead that all brains process information differently regardless of generation. However, there’s no denying that the sheer amount of information that digital natives are exposed to via technology has greatly intensified both the number of changes occurring in the brain and the speed of which these changes are taking place. The truth is that today’s kids have the ability to discover and learn more from a single mobile app than they ever could from any textbook ever written. “One of the biggest problems facing education,” says Prensky, “is that teachers are speaking an outdated, pre-digital language and are struggling to teach a population that speaks almost entirely digital.” The current educational system was designed to teach a very different set of children, in a very different world, with very different needs.
THE NEXT BIG THING

Today we live in a world of rapid technological innovation, where seemingly every day a new start-up comes out of nowhere with a new invention that changes things. Overflowing with creativity and empowered by the latest technologies, these visionaries from around the world have disrupted status quos, revised inefficient designs, upgraded outdated systems, and reshaped entire industries, except for one: education. There have been no revolutionary changes to our education system in the past century. Even where local successes at the school and classroom level show promise, nothing new ever seems to scale.

Take the story of one ambitious inventor who already had several successful inventions under his belt when he turned his attention to education reform. Like many of us, he found textbooks and lectures boring and believed that there had to be a better way to teach kids. He realized that our system was short-circuiting and needed rewiring. He went on to invent something that used the most advanced technology in existence and was unlike anything we had seen before. The inventor, and subsequently the media, loved it, declaring it something that would revolutionize education forever. Boring textbooks would now become a thing of the past. All students would now be able to learn equally, and our traditional classrooms, with their rowed desks, school bells, and a single teacher lecturing from the front of the class, would soon vanish forever. That invention was called an educational film, and was created by a guy named Thomas Edison in 1911.

Over a century later, it’s evident that Edison’s invention didn’t work out too well, as not much has changed in our schools or classrooms. But how could that have happened? Edison had already