

FOREWORD

There's today, and then there's the future.

We grow up with assumptions about how the modern world works. We live in and adapt to the guides and resources we hope will lead us to jobs and money and homes and families and happiness. We are surrounded by clues about how life works and hints of what we need to do to achieve our desired results. Life ahead appears very promising.

And then, just like that, things change—quickly—and a lot! Change in our families; change in our communities; change in our world!

It's easy to say that we have to adapt, but it's harder to actually change. The changes in our lifetime are the result of the emergence of the new digital landscape. Inexpensive and powerful digital tools have fundamentally transformed the way we work and the way we play in the world in which we live. I look at all the activities I do on a daily basis with my digital tools and wonder how I ever did without them.

Let's consider just a few of these dynamic changes. Using today's digital tools and the Internet, we can now manage our online accounts without ever stepping into a bank. We can shop without ever leaving the comfort of our home. A person with a smartphone and the necessary research skills can easily be the smartest person in the room. We can travel to far off places without ever flying in a plane, boarding a train, or going on a road trip. We can develop friendships with countless people who we might never meet in person. We can spend hours of our time watching funny and creative videos on YouTube; as well as effortlessly producing our own multimedia creations. The possibilities are endless. We can do things today that would have seemed unimaginable even a decade ago. And because this all seems to have happened so quickly, it can feel absolutely overwhelming. It's certainly true for me.

And these dramatic changes and their implications for our futures can seem insurmountable. Newspapers have been replaced by websites and social media feeds. CDs and MP3 players have been replaced by anytime, anywhere streamed music. DVDs used to provide much of our video entertainment, yet they have quickly been dethroned by Netflix. Paper books are rapidly being replaced by e-readers and iBooks. Many of us are in denial even as this continues to happen right before our very eyes. It's like a huge bulldozer knocking down our long-standing perspectives.

Because we are human, we fight the inevitable and visible changes at both the unconscious and conscious levels. We have deeply embedded memories of how things were when we were growing up. Take schools for example. Even though

an everyday, taken-for-granted tool in our lives is access to digital devices connected to the internet, we continue to structure schools the way it has always been organized—the same organizational structures, roles, emphasis on content, and schedules that have traditionally been used. The challenge of change is that taking a traditional approach increasingly doesn't work. That's why it's time to rethink schools. It's time to rethink learning. It's time to use modern tools and thinking to cultivate next generation learning skills that will help transform existing educational paradigms.

When my children were young, I discovered they were far more attracted to educationally oriented programs that resembled real people. Every time the graphics got more realistic, and the voices sounded less like C3PO and more like Mr. Rogers, the more they were attracted to their devices. It was as if they were friends. They learned from their devices and software because the tools and the media catered to their interests—customized and personalized for their individual consumption. While we've made incredible progress, we still have a great distance to go to make the tools indistinguishable from humans.

The future of our nation is in the hands of today's learners. It's in the values, social methodologies, and ways of arriving at solutions that define the world as we know it. Yet, for any number of reasons, education seems to be struggling coming to terms with the new digital world. Even many young teachers today struggle because, as students and student teachers, they were brought up in the traditional educational system. As a result, students often unconsciously revert to the expectations, experiences, and assumptions of their teachers, and don't develop the modern mindsets increasingly necessary for the new digital landscape.

I look at students today and marvel at how intuitively they use digital tools in their everyday lives outside of school. Then, I think of the possibilities for a class of 30 young students. Today, as it has long been, a presentation from a teacher is typically fixed for all of the learners in a class. They all get the same presentation of material. Then, a test is used to provide a variable grade that sorts the students out primarily on their ability to memorize. If a student happens to be on the low-end during their early years, they frequently don't value their education and often come to assume that they can never compete with others who are good at memorizing things.

Now, imagine the same scenario with 30 digital devices acting as 30 personalized teachers. Imagine a learning environment that permits every student to progress at a different rate for different subjects. Imagine a learning environment shaped by personal interests and abilities. Imagine a learning environment designed to enhance competency for every student until they have mastered all of the essential skills and content for each subject area. If learners decide to earn straight As, this is an environment that can assist them in their goals. If learners want to go deeper into a particular subject, this environment can empower them. In traditional learning, when time is the constant, learning becomes the variable. When device-supported learning becomes the constant, time becomes

the variable. Creating these types of learning environments has the potential to overcome the traditional paradigms of schools. The big challenge is not the potential of digital tools to accomplish this, but rather overcoming the traditional mindsets that become the obstacle to allowing this to happen.

Many people talk about the need to teach thinking rather than memorization. The challenge is that, in many schools, we learn very early not to question ideas too deeply. We don't open up cabinets to satisfy our curiosity about what's inside. We don't spend time on topics that we find interesting. Rather, there's specific curriculum that must be covered. And we learn continually that there is only one right answer—an answer that is the same for everyone. It's usually a negative factor to ask why something is so. We learn to calculate when two trains will meet on the tracks—something we'll never need in life, but very few students ever raise their hands to ask why they are learning this, or what possible connection this has to their everyday lives.

Also, I worry most about turning off the creative instincts that our children are born with, by not letting them follow their passions and hearts. Traditional learning involves each student of the class, doing the same exact thing as his or her classmates. Too early in their lives many students give up on education, because a couple of students are the “smart” ones with all the right answers first. Or they come to learn that thinking is not what gets you called smart in school; just memorizing answers for the most part—the same as everyone else.

If we break down enough educational barriers, we can also undo a lot of the effect of what class you are born into. Your ability to excel won't be determined by which school you attend. It will be a more equal playing field. But we can't lose students at age 8 who decide that education isn't their strong point. Things like today's grading methods get in the way. Letting every student take as much time on anything they want to learn to reach A+ status will keep so many from dropping out by high school.

Hopefully, in the future, learners will have the opportunity to develop the skills needed to exploit all this random information and apply it to solve real-world problems. The tools on this path will include programming and communication skills, along with multimedia talents. Words can say so much, but the way ideas are presented to others is what amounts to real communication. These are the skills that should be emphasized in schools of the future. The future?

The future is here today.

This is exactly what Ian and Ryan examine in *A Brief History of the Future of Education*. They consider the unconscious mindsets we are so comfortable in maintaining, and how change can sneak up on us and give us a swift kick in the assumptions. The challenge we face is that change is inevitable, sneaky, disruptive, and accelerating.

Reprogramming education to reflect modern times requires schools to embrace the challenge of change by supporting today's learners and leveraging their passions and digital learning preferences. It's time for education to refocus

its energies into helping our learners develop the essential next-generation skills and habits of mind they will need to thrive in modern times. That’s what this book is all about. Enjoy!!!

—Steve Wozniak

Steve Wozniak is an inventor, electronics engineer, programmer, philanthropist, teacher, and technology entrepreneur who, together with Steve Jobs, co-founded Apple Inc. He is known as the inventor of the personal computer, as well as the first universal remote control. Some of his many awards and accolades include the National Medal of Technology, induction into the Inventors and the Consumer Electronics Halls of Fame, and a Hoover, Heinz, and Isaac Asimov Science Award. He is currently reprogramming educational thinking with the launch of his personalized learning service Woz U. In his “spare” time, Steve was part of the team that created Segway Polo.

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