

**RAISING
HUMANS**
in a
**DIGITAL
WORLD:**



BY DIANA GRABER



HARPERCOLLINS
LEADERSHIP

AN IMPRINT OF HARPERCOLLINS

For Michael, Elizabeth, and Piper, the humans at the center of my world.

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Published by HarperCollins Leadership, an imprint of HarperCollins.

Book design by Catherine Leonardo for Neuwirth & Associates.

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ISBN 978-0-8144-3980-7 (eBook)

CIP data here

ISBN 978-0-8144-3979-1

Printed in the United States of America

18 19 20 21 22 LSC 10 9 8 7 6 5 4 3 2 1

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Foreword



What kind of kids do you want to raise?

After writing more than twenty-four parenting books and speaking with more than a million parents on six continents, I've discovered almost all parents want the same thing: They want to raise kids who will grow up to become human beings who are good and kind.

But in a world where screen time is more common than face time, and where digital connections often replace personal connections, this is quite a challenge. Lucky for you, the secret to raising humans in a digital world is in your hands.

While you might find other digital parenting books out there, what's different about this book is its author. I know Diana on both a personal and professional level—we've rubbed elbows at conferences on both coasts, shared stories, and asked each other, "*What do kids need most?*" I can assure you she's a trustworthy authority to answer this essential parenting question in a simple, straightforward manner. Here's why:

- Diana has her pulse on this topic. A digital literacy educator for nearly a decade (rare longevity these days), she's tried and tested everything you are about to read and done so on the best guinea pigs in the world . . . *real* kids.
- Through Cyberwise and Cyber Civics, her two digital literacy sites, she's provided resources to and interacted with hundreds of thousands of parents and their kids over the years.
- She's on the speaking circuit, talking to communities across the United States and listening to their concerns.
- She's done her homework, earning one of the first-ever graduate degrees in a new, and timely, field of study called "media psychology and social change."
- And, most important, she's a parent who cares deeply about kids.

The media knows about Diana, too. NBC's *TODAY* Show visited her classroom at Journey School in Southern California to feature Diana and

her students engaging in some of the very activities you'll read about in this book.

I love how she compares raising a human today to building a house, telling you to start with a strong foundation of social skills, like empathy, and to build up from there. She gives you the tools you'll need—and the building plan, too. This book contains a treasure trove of how-tos and simple activities, as well as sage wisdom and insights from interviews with more than forty experts in the field.

My advice? Read this book, keep it by your nightstand, or even pass it on to other parents. But most important, *apply* what you are about to learn. Remember, your kids don't need the latest app or gadget: they need you! Your time and attention, along with what you'll learn in this book, are the secret ingredients to raising humans in our digital world.

Dr. Michele Borba

Internationally Recognized Educator, Speaker, and Bestselling Author of
Unselfie: Why Empathetic Kids Succeed in Our All-About-Me World
Palm Springs, August 6, 2018

Come mothers and fathers
Throughout the land
And don't criticize
What you can't understand
Your sons and your daughters
Are beyond your command
Your old road is rapidly agin'
Please get out of the new one if you can't lend your hand
For the times they are a-changin'

BOB DYLAN, "*The Times They Are a Changin'*"

Introduction

Left to Their Own Devices



When left to their own devices people will get up to one of two things: nothing much, and no good.

—LIONEL SHRIVER¹

One bright September morning I stood at the door of the large auditorium that doubles as my classroom on Mondays and said goodbye to thirty or so seventh graders as they filed out into the bright Southern California sunshine. Wes, a slight boy with big blue eyes who was new to the class that year, stopped abruptly in front of me to ask a question.²

“Why are you teaching us this stuff?”

That surprised me. I thought it was obvious. Our class, called “Cyber Civics,” met weekly throughout the entirety of their middle-school years—sixth, seventh, and eighth grades—so I could teach students the digital life skills they’d need to use technology safely and wisely. And that’s what I told him.

“But isn’t that our parents’ job?” he asked.

He had me there. Fundamentally, I suppose, this is a parent’s job. But in defense of parents everywhere, myself included, we didn’t grow up with this stuff. Most of us are still figuring out how to use new technology safely and wisely, and sometimes not doing a very good job at it.

But we grew up in an entirely different world. When we were kids, we could engage in silly, embarrassing—and perhaps even borderline illegal—activities without the worry of our antics being recorded and posted online. Our social networking happened at the mall or on a neighborhood street corner. Peer approval didn’t depend on “likes” or friend requests, but rather on an actual smile, nod, laugh, or high five. We learned how to read a map, use a telephone book, and even what “counterclockwise” meant. We owned a camera. If soccer or band practice ended early, we had to wait patiently to

be picked up or use a conveniently located pay phone and hope we had a dime in our pocket to call home.

In terms of access to information, the world is almost unrecognizable from a few short decades ago. Consider the task of doing research for a school project. Blessed were those twenty-six volumes of *Encyclopedia Britannica* on the bookshelf! Otherwise it was a trip to the library to navigate a card catalog, then locate and *read* an entire book to find the information needed.

Those days are long gone. Today, kids walk around with information from all the world's libraries accessible via the devices in their pockets, with Google and Siri to lend a hand. And the most amazing part? Young people don't even find this amazing. Why should they? For amazement, they can throw on a virtual-reality (VR) headset and be transported to another world.

So far, this century has been packed with digital innovations that have radically altered childhood. Those of us tasked with raising kids during this period have been caught largely unprepared. New devices and what we can do with them—text, Skype, post, tweet, pin, chat, and so forth—have often distracted us from the job of parenting. Who hasn't mindlessly handed a tablet, smartphone, e-reader, or whatever to a kid to have a moment to check email or post pictures on Facebook? Who can blame parents for not noticing that our children might be growing as addicted to their devices as we are to our own? Or that they might be exposed to inappropriate content, that their personal information could be at risk, or that their digital reputations were being constructed? Brand-new terms have left us scratching our heads, too: sexting, piracy, phishing, trolling, grooming, memes, GIFs, hacking, revenge porn, cyberbullying, predators, finstagram, digital kidnapping, and more. All of us—kids included—have been left to our own devices trying to make sense of a whole new world.

YOU CAN TEACH YOUR KIDS!

Wes is right. Parents can, and should, be teaching digital life skills to their kids, and this book will show you how. But first, take a deep breath, because the downsides and dangers of this new digital age—many of which I just listed to get your attention—comprise a fraction of what

happens online. I promise. Besides, while we worry that digital kids might be connecting with creepy strangers, or posting pictures that will keep them from getting accepted to college, they view their online world through an entirely different lens. A 2017 UNICEF study involving children and young people representing twenty-six countries discovered that these youth are overwhelmingly positive about the role digital technology might play in their lives. They are excited about opportunities for communication, connection, sharing, and yes, *brace yourselves*: even learning.³ It turns out that when young people gather online, good things can and *are* happening.

GOOD THINGS ARE HAPPENING ONLINE

While research over the past two decades has largely zoned in on tech use dangers, which can be serious and important for parents to be aware of, lots of good things are happening online:

- Social media helps young people strengthen existing friendships. More than 90 percent of teens report using social media to connect with people they know in real life.⁴ The same is true for those who play online games; 78 percent of gamers say that when they play, it makes them feel more connected to friends they know offline.⁵
- Learning is possible anytime, anywhere. Experts are at our children's fingertips, and many young people are turning to online communities to connect with others who share their interests and hobbies.⁶
- Teens increasingly use social media to keep in touch with family members, strengthening family bonds and feelings of connectedness.⁷
- The internet creates opportunities for at-risk or marginalized youth to seek social support, advocate for themselves, and investigate resources for resilience.⁸
- Social media gives teens a chance to present their best selves, and college recruiters are noticing; 35 percent of college admissions officers say they check social media during the admissions process, and most report that the review benefited the applicant.⁹

- Youth are creating apps that make the world better. For example, sixteen-year-old Natalie Hampton from Sherman Oaks, California, created an app called “Sit With Us” so that no kid would ever have to eat lunch alone.¹⁰
- Social networking can promote youth civic engagement.¹¹ This includes a broad range of activities such as volunteering, voting, and raising awareness of issues young people care about.
- Free and low-cost digital tools let young people express their creativity in numerous new ways: They can write blogs, take and share photos, make videos, collaborate on school projects, and more.
- Young people around the world can contribute to significant cultural change. In 2009, a twelve-year-old Pakistani girl named Malala Yousafzai began blogging about girls’ rights to education. Her fearless advocacy, even while she lived under the restrictive Taliban regime, captured the world’s admiration and earned her the 2014 Nobel Peace Prize.

While all of this is great news, there’s a fly in the ointment. Positive online experiences like these don’t magically happen when you hand your child a connected device. It takes time and effort to turn a toddler adept at swiping across a tablet into a teenager who uses technology safely, wisely, ethically, and productively. It’s on us parents to help youth discover how to minimize the risks and maximize the benefits technology offers.

To date, when teaching kids about tech, education has focused primarily on warning them about negative experiences that *might* happen rather than preparing them for positive ones that can. According to UNICEF, “the discourses available to children currently focus almost exclusively on risk and protection, and this is potentially undermining their capacity to imagine, and articulate, the benefits digital media offers them.”¹² It’s high time to set our fears aside and get to the task of empowering youth to use technology well.

The good news is that teaching your kids how to maximize technology’s benefits is not only possible, but also can be an enjoyable and valuable way to connect with them. In the pages that follow, you’ll learn what adults can and must do to help youth have a safe, healthy, and productive relationship with their devices.

RAISING THE DEVICE GENERATION

I couldn't survive without my phone.

—EIGHTH-GRADE STUDENT

Kids growing up today spend more time with screens—smartphones, computers, tablets, etc.—than they do in school, with their families, or sometimes even sleeping. A study conducted by the nonprofit Common Sense Media found that, on any given day, U.S. teens spend about nine hours per day using screens for entertainment. For tweens—kids between eight and twelve years of age—time spent with screens is about six hours per day. This doesn't even include the time kids spend on screens in school or for schoolwork.¹³ I asked Kelly Mendoza, Common Sense Media's senior director of education programs, if she found these numbers surprising. "What makes them surprising is the multitasking," she said. "A kid might think, 'Hey, I'm doing my homework,' but actually they're on social media or listening to music. That's what makes the numbers seem immense."¹⁴

Look up from your own screens for a moment, and you'll see kids everywhere either staring down into phones that now go everywhere they go or busy thumbing yet another text message. Texting is the most common and frequent way teens communicate with one another, with 88 percent texting friends at least occasionally and over half texting them every single day.¹⁵

It's hard to believe we started texting one another in the United States two short decades ago. I was reminded of this startling fact by Jack McCartney, who was the director of messaging at Verizon where he introduced Short Message Service (SMS), more commonly known as text messaging, to the U.S. market in 1999. He likes to crack, "If you're a parent, I'm sorry. And if you're a kid, you're welcome!"¹⁶

Teens took to texting like ducks to water. In one month, today's average teen processes 3,700 text messages, and that doesn't even include all the private chatting that happens between kids in apps like Snapchat.¹⁷ I asked McCartney if he had any inkling texting would become so popular with youth. "No," he answered. "And what really shocks me is how much time *everyone* spends with their heads down, looking awkwardly into little screens and not interacting with others, young and old alike. It's not at all what we expected."

But if you stop to consider everything our phones can do today—access the internet, take pictures, deliver music and engaging games, tell time, give directions, order pizza—and most importantly, offer unparalleled social connectivity—it shouldn't be shocking at all. In a short time, these gadgets truly have evolved into “smart” phones.

“All these things came together in ways no one could have predicted,” says McCartney. “How can anyone, especially a kid, resist what a smart-phone has to offer?”

The answer is, they can't.

THE SMARTPHONE HAS CHANGED CHILDHOOD

Psychologist and author Dr. Jean Twenge, an academic who studies generational trends, has written numerous scientific articles and three books based on her extensive research. Her most recent book, *iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy—and Completely Unprepared for Adulthood*, takes a hard look at the generation she dubs “iGen,” kids born between 1995 and 2012, the first kids to enter adolescence with smartphones in their hands.¹⁸ She asserts that these “iGen'ers,” a group that includes not only my own two children but also those I teach, are on the brink of the worst mental health crisis in decades. And the cause? You guessed it: their smartphones.

In late 2017, Twenge wrote an article for *The Atlantic* with the provocative title “Have Smartphones Destroyed a Generation?” in which she distills the findings she presents in her book, writing, “the arrival of the smartphone has radically changed every aspect of teenagers' lives, from the nature of their social interactions to their mental health.”¹⁹

When her article hit, I was busy visiting schools and parent groups around the United States, giving talks about kids, technology, and the importance of digital literacy education. Nearly every place I visited, parents had either read or heard about Twenge's findings and were eager to discuss them. While many heartily agreed that the smartphone is to blame for every adolescent problem (depression, anxiety, and sleep deprivation, just for starters), others found Twenge's assertions (e.g., “the twin rise of the smartphone and social media has caused an earthquake of a magnitude we've not seen in a very long time, if ever”) overstated and alarmist.²⁰ But no

matter which side of the fence they landed on, parents were united in one concern: *What do we do?*

You see, everyone knows the genie is out of the bottle and not going back in. Kids love their screens too much, and heck, so do we. Besides, it is clear they will need them for school and for work. So, while it's important to be aware of *how* devices are reshaping childhood, we must also prepare youth for an adulthood that will inevitably include devices, or whatever technology comes next.

IS YOUR CHILD READY?

When to give your child today's most coveted gift—her first smartphone (or a “connected” device of any kind)—is one of the biggest decisions a parent will have to make. Remember, a “connected device” is any gadget that connects to the internet. In addition to smartphones, this includes tablets, computers, gaming consoles, e-readers, smartwatches, and even Bluetooth-enabled toys and assistants. All of these have the capability of connecting your kids to all the world's people and information, all the time. Any missteps they make on a connected device may be permanently recorded, for everyone to see. This is a weighty responsibility, and kids are woefully unprepared without guidance.

When parents ask me, “What's the right age to give my children (insert type of connected device here)?” I counter their question with one of my own. Well, seven questions, to be exact. I think every parent should first answer these questions before determining whether his child is ready for a connected device:

- **Have your children developed the social and emotional skills necessary to use their gadgets wisely?** Have they learned how to show empathy, kindness, respect, and civility? These capacities evolve over time. They are in high demand online, and when expressed there, can turn it into the safer, kinder environment adults dream about.
- **Do your children know how to manage their online reputations?** Increasingly, colleges and employers (and others) are looking to the internet to learn about our kids. So, do your children

know that everything they post, and everything others post about them, contributes to an online reputation that speaks volumes about their character?

- **Do your children know how to unplug?** By their own accounts, teens say they feel “addicted” to their devices.²¹ Have you equipped your children with strategies (and reasons) to unplug from their virtual worlds and plug into “real” life now and then?
- **Do your children know how to make and maintain safe and healthy relationships?** Can they keep themselves safe from cyberbullying, predators, sexting, revenge porn, sextortion, and other online dangers? Do they know what to do if they encounter (and they probably will) dangerous or unhealthy relationships online?
- **Do your children know how to protect their privacy and personal information?** In the excitement to sign up for new services and to share with friends, many kids unwittingly give away too much personal information, especially when those too young to know better use social media. (Three-quarters of children between ages ten and twelve have social media accounts, despite being below the minimum age requirement.²²)
- **Do your children know how to think critically about the information they find online?** Are they able to evaluate media messages for their accuracy, authority, currency, and bias? Not knowing how to do so leaves kids vulnerable to misinformation, “fake news,” and more.
- **Are your children equipped to be digital leaders?** Do they know how to be upstanders? The internet is in desperate need of kids who can stand up to bullies, create inspiring content, make moving videos, share uplifting stories, and invent new technologies that improve our world. Are your kids equipped to make their digital world better and safer?

If your answer to any of these questions is “no,” then your children are not ready for the massive responsibility of owning a connected device. The stakes are too high. However, you can teach them all of these life skills no matter how much, or how little, you personally know about technology. Be forewarned: *These skills can’t be taught overnight.* It will take time and patience to teach your kids how to manage, rather than avoid, the digital world’s complexities.

It took me a while to figure this out for me and my own children. Frankly, a lot of trial and error was involved (sorry to my girls). Hopefully, by sharing what I've learned along my journey, which began almost two decades ago, yours will go more smoothly.

MY OWN JOURNEY BEGINS

On a cool autumn morning, in September 2000, I held the hand of my nearly five-year-old daughter as we approached the tiny portable structure that would be her kindergarten classroom. Like many mothers delivering children to school for the first time, I was nervous. But my nerves had less to do with day one of kindergarten, and more to do with the “school” we'd elected to send her to. Glancing around at the half dozen dilapidated portables crammed between a church and an adult educational facility, I started to get cold feet.

Our daughter was one of just ninety students to enter the first parent-initiated public charter school in Orange County, California. Named “Journey School,” it was the first charter school in Capistrano Unified School District (CUSD), the eighth largest school district in the state and home to forty California Distinguished Schools and eleven National Blue Ribbon Schools. CUSD was, and remains, one of the top-performing districts in California and has a graduation rate of 97.1 percent, much higher than the state's average of 85.1 percent.²³ Every CUSD high school is ranked in the top one thousand U.S. high schools by *U.S. News & World Report*.²⁴ The schools are clean, safe, and well regarded. The logical decision would have been to send her to one of these perfectly fine schools—after all, charter schools were a relatively unknown and unproven concept at the time. Lawmakers had just passed the 1992 Charter Schools Act, and California was the second state in the country, after Minnesota, to enact charter school legislation. Only 1.7 percent of all U.S. public schools were charters.

On top of being a charter school, Journey School veered off the traditional educational path in another way, too—it was a Waldorf school. The little my husband and I knew about Waldorf schools was gleaned entirely from an article we'd stumbled upon in *The Atlantic*, “Schooling the Imagination.” Its author, Todd Oppenheimer, offered a glowing account of schools that encouraged playfulness, imaginative wonderings, and a reverence for childhood. He wrote:

This notion, that imagination is the heart of learning, animates the entire arc of Waldorf teaching. When that concept is coupled with the schools' other fundamental goal, to give youngsters a sense of ethics, the result is a pedagogy that stands even further apart from today's system of education, with its growing emphasis on national performance standards in subjects such as mathematics, science, and reading and its increasing rigor in standardized testing—to say nothing of the campaign to fill classrooms with computers.²⁵

Oppenheimer went on to describe how Waldorf schools fill their classrooms with handmade, natural objects and encourage children to interact with those, and each other, before screens. It sounded magical, and we were easily sold. What we didn't know then was how popular Waldorf schools were, and continue to be, with parents who work in the tech industry, specifically because these schools believe “technology can wait.”²⁶

NO MEDIA AT THIS SCHOOL!

Shortly after dropping off our daughter, we attended the school's parent orientation, where several forms were passed out for parents to read, sign, and hand back to the school principal. One of these was the school's media contract:

MEDIA CONTRACT

As you know, Journey School's philosophy includes the exclusion of media during the week, from Sunday evening through Friday morning. This includes all electronic media: radio, CDs, cassettes, karaoke, electronic toys, videos, and TV. Our interest is in the children being connected to the warmth of a human voice rather than a voice that is electronically transmitted.

My husband and I shot each other a sidewise glance before signing this one. At the time, we were working on a cable television series for the Outdoor Life Channel called *To the Edge*. These were TV shows that profiled

professional athletes engaged in various treacherous feats on rock cliffs, big waves, and churning rapids. The show's success, and our livelihood for that matter, depended on people staying home to watch television rather than going outside to engage in these activities themselves. So yes, signing this media contract was a tad hypocritical. But the idea of raising kids without the glare or distraction of the television in the background of our daily lives was appealing. We liked the thought of conversations at the dinner table and time for crafts, games, and baking cookies. We imagined raising kids who could engage in interesting conversations and make eye contact. With this in mind, we signed the dotted line.

THINGS WERE EASIER BACK THEN

Thinking back upon that time, I often wonder if we would have so readily agreed to restrict our media consumption had there been digital media to contend with. But the media environment was entirely different in the year 2000:

- There were only 361 million internet users in the entire world. For perspective, that's barely two-thirds of the size of Facebook today.²⁷
- Google was only two years old.
- Neither Friendster nor MySpace (remember those?) had been invented or gone out of business.
- Facebook, LinkedIn, Wikipedia, YouTube, Twitter, Flickr, and Instagram didn't exist.
- Evan Spiegel, Snapchat's founder, was only ten years old.
- There were no iPods, iTunes, or iPhones. And we were a full decade away from the first iPad.

The only media exposure we had to worry about limiting was television. Even that was no big deal. We relegated our one TV to the upstairs office, where it couldn't tempt us, and went about our daily lives.

And then, *everything* changed.

As our daughter, and her sister who followed her by three years, approached middle school, our nondigital world's simplicity started to fade into a distant memory. "Media" became more than just television. It became

digital, and social, and mobile. Kids loved it, and parents weren't ready for it. Including me.

MEDIA PSYCHOLOGY TO THE RESCUE

In 2006, while mindlessly scrolling through my email, which had begun to consume too many hours of my day, something caught my eye. An email from my alma mater announced a brand-new field of study: Media Psychology and Social Change. UCLA was offering four pathway courses that would lead to a master's degree through Fielding Graduate University. Figuring this would be a great way to understand media's transformation—and in turn help me help my kids navigate a new digital world—I enrolled, and for the next four years immersed myself in the study of media's effects upon human behavior.

As I worked my way through grad school, technological advancements seemed to occur weekly. The iPhone appeared in 2007, shortly followed by the iPad. In 2010, the Kaiser Family Foundation reported that the amount of time young people were spending with entertainment media had risen dramatically. They discovered that eight- to eighteen-year-olds were devoting an average of seven hours and thirty-eight minutes to using entertainment media across a typical day (more than fifty-three hours a week). And because youth were spending so much of that time “media multitasking” (using more than one device at a time), they were packing a total of ten hours and forty-five minutes worth of media content into those seven hours.²⁸

“Holy cow, that's a lot of media,” I thought. Kids were spending more time with media than doing almost anything else—going to school, playing sports, engaging with their families, sometimes even sleeping. How, I wondered, were they navigating these new changes?

Not very well, I would soon learn.

DIGITAL DRAMA HITS HOME

New digital technologies were finding their way into the lives of kids at Journey School, too, despite the school's media contract. In 2010, when my oldest daughter was in eighth grade, the school experienced its first social media “incident.”

Back then, Facebook was all the rage (remember, this was before Instagram or Snapchat, so young people were using Facebook to post pictures and communicate the daily events in their lives). Young people were using Facebook to post pictures and communicate the daily events in their lives. A new girl, Ariel, joined my daughter's class that year and introduced her classmates, including my daughter, to this social media platform. Ariel was a prolific Facebooker. She posted pictures of herself and her small group of girlfriends every day, carefully selecting each photo to make sure she looked perfect (hair in place, pretty smile, etc.). Unfortunately, she did not extend the same level of care to her friends. In the same pictures they generally had funny expressions on their faces, hair out of place, or worse. Her friends caught on to this inconsideration pretty fast. I heard about it from my daughter, who found it funny. But another girl, named Reece, found no humor in it whatsoever.

Reece was a vlogger. She kept a video blog of her daily events, sort of a virtual diary that was online and public. In one of these vlogs, she complained about the Facebook posts and the girl who posted them, saying she felt "stabbed in the back." She even made the repeated hand motions of someone being stabbed. Parents caught wind of this video, and even those who didn't see it heard about the stabbing bit and found the thought disturbing. Before long, parents reported this "cyberbullying" incident to the school, and Reece found herself in the principal's office.

Let's pause here for a moment. Parental overreaction aside, what occurred was a minor incident, especially judged by today's standards. It was normal teenage behavior that *seemed* different only because it was playing out in a new environment. Ariel, the Facebooker, was dabbling with a new, exciting tool, probably without adult guidance. Plus, she was engaging in a form of "identity construction," when adolescents try to figure out who they are and how to portray themselves to the world. Reece, the vlogger, was also learning to use new tools, recording and posting videos, also without adult guidance. These are wonderful new media skills! She was also expressing strong opinions and ideas, which is normal teenage behavior, too. Nothing these girls did was very bad or even wrong, but it *was* the first time technology use had disrupted our school, and it caught new principal Shaheer Faltas entirely off guard.

"Because this was new terrain," Faltas told me years later, "there was fear at all levels—among the parents, the teachers, and even the students. I'd only been at Journey for a few months and all of a sudden, I had this huge

issue on my hands and a lot of questions. What constitutes cyberbullying? Is this the parents' problem or the school's? Why are students even using Facebook? And most importantly: What do we do to keep this, or an even worse incident, from happening again? These were all questions we had yet to answer."²⁹

When this transpired, I had just finished my studies. Dr. Pamela Rutledge, a professor at Fielding Graduate University who had been my mentor and later became a dear friend, encouraged me to submit my final capstone for publication to the *Journal of Media Literacy Education*, and I did. My article, "New Media Literacy Education (NMLE): A Developmental Approach,"³⁰ was published around the same time this digital drama was playing out among my daughter's friends. The paper made a case for teaching kids the moral, ethical, and social guidelines necessary to be good online citizens. It was apparent that such an education was needed at my own daughters' school, and I was excited.

OUT OF LEMONS, LEMONADE

After a week of watching the traffic of crying students, irate parents, and confused teachers flow in and out of Faltas's office as he attempted to navigate Journey School's first cyberincident, I asked if I could teach "digital citizenship" to my youngest daughter's sixth-grade class. This, I assured him (secretly hoping I was right), would keep future problems out of his office. He considered my proposal for about three seconds. "When can you start?" he asked.

"I had no idea what 'digital citizenship' was at the time," said Faltas, "but I knew that doing nothing was not an option. It was clear that issues related to digital media were sure to crop up again, and we needed to be proactive rather than reactive. I knew I needed help."³¹

CYBER CIVICS IS BORN

Faltas allowed me to appropriate the school's weekly civics class and turn it into "Cyber Civics," a course I've been teaching to middle-school students ever since. Today it is a three-year series of weekly activities that cover the entire spectrum of digital literacy—digital citizenship (the safe and responsible use of digital tools), information literacy (how to find, retrieve,

analyze, and use online information), and media literacy for positive participation (using critical thinking to analyze media messages, including “fake news”). Faltas encouraged me to place the entire curriculum online, so other schools could use it, too. As of this writing, schools in over forty U.S. states (and four other countries) teach Cyber Civics to their students, and the program continues to grow. With this book, hopefully some of these civics activities will find their way into your homes as well.

CIVICS FOR A DIGITAL AGE

Civics, the study of citizenship, has an entirely new meaning today. We live in an age when we are as much a citizen of the online world as we are of our town, state, or country. In a captivating TED Talk, Eric Lui, founder of Citizen University and the executive director of the Aspen Institute Citizenship and American Identity Program, describes civics as “the art of being a pro-social, problem solving contributor in a self-governing community.”³²

I love this definition and can’t think of any communities more “self-governing” than those online. Can you? Consider the social media communities where youth hang out, share information, and spend the bulk of their time—like Snapchat, Instagram, YouTube, and so forth. These communities are largely devoid of parents, internet police, crossing guards, or even rules to keep their users in line or safe. Kids are left to their own devices to figure out how to be a good citizen in places like these.

Lui further explains civics by quoting Microsoft founder Bill Gates’s father, Bill Gates Sr., who says civics is “simply showing up for life.”³³ I love that descriptor, too, and especially the three things Lui says it encompasses:

- A foundation of values
- An understanding of the systems that make the world go round
- A set of skills that allow you to pursue goals, and have others join in that pursuit

These were three things I was hoping to accomplish through Cyber Civics. By guiding kids through a series of discussions and activities surrounding a range of technology-related topics, I thought that, given time, we could

realize these same objectives. This holistic approach to “digital literacy”—possibly the most important skill kids need today, given the time they spend with tech—achieves an important end. It arms kids with the superpowers to keep themselves safe and be super online and off.

Digital Literacy is more than technological know-how. It includes a wide variety of ethical, social, and reflective practices that are embedded in work, learning, leisure, and daily life.³⁴

The Experiment Works!

Much to my relief, within a few years of implementing Cyber Civics at Journey School, my assurances to Faltas were validated. He told me that few tech problems ever reached his office, “which is rare for a school in the twenty-first century.” On top of that, standardized test scores for his middle-school students were on the rise, in spite of warnings that sacrificing precious academic time for these classes was a risk. A 2015 article in *District Administration Magazine*, based on an interview with Faltas, says, “In the first two years after implementing Cyber Civics, the school’s Academic Performance Index score grew from 766 to 878—the highest in the school’s history.” The article adds, “Only three incidents of poor digital behavior or online bullying have been reported since 2011, and none have occurred in the last two years.”³⁵

“It’s a gamble not to give your kids these lessons,” he has said.

EVERY KID NEEDS THESE LESSONS

Teaching kids how to be safe, thoughtful, and ethical users of technology doesn’t have to—and can’t—happen only in a classroom, and that’s the reason for this book. Parents and caregivers can achieve the same ends with their own children at home. It’s sort of like building a house. You must first lay a strong foundation before helping your child build a structure that will keep them safe. Then they can enjoy the benefits of interacting with a larger community.

That is how you’ll find this book organized:

- **Part One: A Solid Foundation.** Your child’s house must be built upon a solid foundation, and part one will show you where to start. The skills you nurture while your children are young will pay off in spades as they grow older.
- **Part Two: A Sturdy Structure.** The next step is to help your children build a sturdy structure, comprised of four strong pillars, that will withstand any storms that may blow their way. It will be as durable and secure as the effort you both put into it.
- **Part Three: A Vibrant Community.** Here’s the fun part. With a strong foundation and sturdy structure in place, part three will show you how to help your children connect and engage—critically and confidently—with new communities and opportunities online. The goal is for them to use digital technologies to learn, inspire, be inspired, and share their unique talents with the world.

To help you with this building project, this book is packed with activities that you and your children can do together, called “Cyber Civics Moments.” They will help your children, and your family, build a safe, happy, and healthy relationship with technology.

Where to start? At the beginning, as I do.

CYBER CIVICS MOMENTS

Every fall I greet a new crop of sixth graders eager to embark upon our Cyber Civics lessons. After all, they know that in this class they’ll get to talk about the thing that already consumes much of their interest and time: technology. The first day I start by asking a simple question: When you think of “technology,” what comes to mind? Students respond enthusiastically by naming all the technologies they love—smartphones, tablets, gaming consoles, computers, laptops, smartwatches, etc. Rarely do they mention any technology invented prior to the computer.

But new technologies are as old as humankind, and many of them significantly altered, and worried, the societies they were introduced to. Consider the stylus. When this writing instrument was invented, many feared it would mark the end of oral history. The great philosopher Socrates warned

it would “create forgetfulness in the learners’ souls, because they will not use their memories.”³⁶

Centuries later another new technology, the printing press, caused a similar stir. Suddenly, large amounts of information could be shared quickly and cheaply, and some people found this disturbing. Respected Swiss scientist Conrad Gessner even worried that this flood of information would be “confusing and harmful” to the mind.³⁷

Eventually, humans became accustomed to both writing and reading, thank goodness, even though the technological innovations that made both possible were met with apprehension, resistance, and fear. Students easily draw the connection to today’s technologies when they hear these stories. Their parents, they say, aren’t so crazy about smartphones either.

Helping children understand technology’s social impact is an important place to start. In a terrific book I recommend to parents, titled *Digital Community, Digital Citizen*, by Jason Ohler, a professor emeritus of educational technology and virtual learning at the University of Alaska, as well as a professor in the media psychology PhD program at Fielding University, Ohler suggests challenging students to become what he calls “de-‘tech’-tives” (see activity below). As a student at the University of Toronto, Ohler studied under famed media theorist Marshall McLuhan, who coined the phrase “the medium is the message.” He remembers McLuhan explaining how every technology introduced throughout history both connects and disconnects humans from one another. While the connections make new tools exciting (think of the telephone, which finally enabled users to speak with faraway family and friends), disconnections are what we either worry about or fail to recognize at first (the phone also displaced face-to-face communication). I remember my own parents being upset about our telephone-induced disconnections. They didn’t like it when my siblings and I talked to friends during dinner or when we were supposed to be helping with chores. Like today’s parents, they thought technology was disconnecting their children from important things.

I’ve conducted Ohler’s activity hundreds of times, with both kids and adults. While it’s always fun with kids, this lesson is a good one for adults, too—especially the most tech averse. If that’s you, and even if it’s not, spend a few moments doing the following activity with your children.

Become a De-“Tech”-Tive

You and your children can use the following steps to investigate technology’s impact throughout history:

1. Think of three new technologies, or “tools,” introduced throughout history—the pencil, bow and arrow, microwave oven, radio, telephone, automobile, or any other technology.
2. With your children, think of ways each of these tools changed society for better or worse. More specifically, talk about how each tool connected people to one another, and how it disconnected them. For example, when I’ve challenged students with this activity (using the bow and arrow as their “tool”), here’s what they came up with: The bow and arrow connected people to one another because they could easily get more food to cook and eat together. (One student told me that when Cupid releases an arrow, it makes a love connection!) On the other hand, the bow and arrow disconnected people because they could hunt alone. They no longer had to be in groups to catch and kill a big animal. Also, if used as a weapon, the bow and arrow becomes a huge disconnection.
3. Finally, discuss how today’s technology—specifically, the smartphone—connects and disconnects users. Have an honest discussion on the pros and cons of this new tool.

What Was Life Like Before the Cell Phone?

This might seem like a ridiculous question, but most kids today don’t remember a world without cell phones or connected devices, and you do. So encourage them to use their “de-‘tech’-tive” skills to discover how you survived without today’s seemingly indispensable tool.

When I do this activity with students, they love to share the results of their sleuthing. They are amazed to discover that their parents carried change in their pockets to use a pay phone, or that they played with their friends after school in real life—no social media required. Some students come to class with an old flip phone, or even a brick phone, that a parent found tucked in a drawer at home. Their classmates are so excited to see

these relics you'd think they'd dug up a dinosaur bone in the schoolyard.

You Can Also Do This at Home

1. Let your child interview you (or a grandparent or older relative) to discover what your life was like before the cell phone. Be sure to answer these questions:
 - How did you get along without it?
 - Did you have an early version of a cell phone? If so, what was it like?
 - Do you think having a cell phone makes your life better or worse?
2. Talk with your child about all the digital innovations you've witnessed in your lifetime, and how they may have changed your life, for better or worse.

Understanding Citizenship

Every kid today will use technology to connect with others in all kinds of new ways, becoming a “citizen” of online communities you may or may not know about. Understanding how to be a good community member offline is fairly easy—the real world is governed by rules, laws, and norms established over time—but that’s not the case online. Many online communities lack rules, laws, and norms, and if there are any, they are sometimes hard for kids to figure out (think of age restrictions buried in the “terms of use” for most games or social media sites). Plus, who cares when online rules are broken?

That’s why it’s important to introduce young people to the five “themes of citizenship.”³⁸ Tell them that every good citizen—online and offline—should demonstrate the following traits:

- **Honesty.** Be truthful and fair. Good citizens must be honest with others, and with themselves.
- **Compassion.** Show care for people and reverence for living things. Compassion gives citizens an emotional bond with their world.

- **Respect.** Show regard or consideration for others, and even toward inanimate things or ideas. Good citizens should have respect for laws and reverence for all living things.
- **Responsibility.** Be answerable and accountable. Citizens should recognize that their actions have an effect, either positive or negative, upon others.
- **Courage.** Do the right thing even when it's unpopular, difficult, or dangerous. Many people throughout history—including Martin Luther King Jr., Susan B. Anthony, and Mahatma Gandhi—have demonstrated great courage.

It never occurs to many kids that these principles of citizenship should apply online, and that's too bad, because they would help make the internet safer and kinder. Just like playing a soccer game without rules or a referee would be no fun for anyone, an online world devoid of basic rules or principles ends up being a bummer for just about everyone, too.

Many good kids believe they can act entirely different online than they do in real life. Here's an example: If I were at your home and asked your nine-year-old her age, chances are I'd get the truth. That's probably because your child knows it's her responsibility to be honest and respectful. This is how people act in real life; it is what you and other adults model and what most kids have learned.

Consider this same scenario online. Let's say your child wants to open an account on Snapchat. Perhaps "all his friends" have an account, and he just wants one. While Snapchat, like most social media networks, requires users to be at least thirteen years of age, all young children have to do is enter a fake birth date, and *presto*, they have an account. Most don't think twice about ignoring the first theme of citizenship, honesty, online. If I had a dime for every time I've had a young student tell me, "Nobody cares when you lie about your age online," I'd own a Caribbean island. But I care, I tell them, and venture to say you do, too. I don't think honesty (or compassion, respect, responsibility, and courage) are principles that anybody wants to throw out the window.

This activity can help your children discover how to be the same good citizen online as you expect them to be offline. Do the following:

1. Explain the above principles to your children. Tell them that in the offline world these traits are generally expected of good citizens. They are norms that civilizations have established over time.

2. Talk to your children about all the offline communities they belong to: sports teams, classroom, city, state, country, even family. Ask them to tell you how they might demonstrate these citizenship principles in one of these communities. Be sure to discuss what it would be like if these communities *did not* follow these principles.
3. Talk to your children about the online communities they, or you, belong to—a social media network or a gaming community, for example. Ask them how the citizenship principles might be demonstrated in one of these communities. Be sure to ask them to tell you what it would be like if these communities did not (or do not) follow these same principles.

Each year I ask students to write a sentence, or to draw a picture, describing how each citizenship trait is exemplified in an offline community they belong to. Last year, a sixth-grade student, Blake Hirst, bounded into class waving an entire essay he'd written, eager to share it with the class. Here is what he wrote:

I was told that I had to do a report on how a community I belong to shows citizenship, so I chose to do it on my classroom community. Hope you enjoy!

HONESTY: Suppose there are two different math quizzes, and they don't have names on them. Your teacher asks you which one is yours. One has a better grade, and the other one doesn't. The one with the bad grade is yours. So, do you say the one with the good grade is yours, or not? Most likely you would be honest and admit you got the lower grade. This is honesty.

COMPASSION: This can mean helping someone when they are in a time of need. Sometimes at my school we have "Compassionate Campus," where we do something like clean or write nice letters to teachers. This is a slight rendering of what compassion is.

RESPECT: Respect is a value that everyone *should* have. Respect, for example, is not talking out of turn in class or not saying bad things about a person when they are not around. I think everyone in the world would benefit by showing each other more respect.

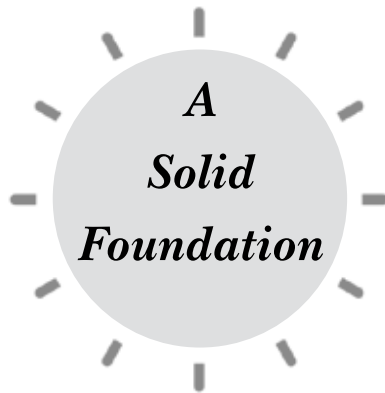
RESPONSIBILITY: Let's say you were late to class at school, and it was your fault because you were out playing basketball. That's

irresponsible, right? Responsibility would mean you would stop playing basketball and head back to class when the bell rings.

COURAGE: Maybe you are at school, and someone is picking on a friend or someone who is sort of unpopular, and you stick up for them. That's an example of courage. Even if it's you being made fun of, it shows courage not to do it back. Courage is one of the most essential things a citizen should have.

Well that is my report on citizenship, and I hope you learned something from it and had fun reading it.

PART ONE



Chapter 1

A Digital Journey Begins



What we may need most is an app that reminds parents that they need to ditch their own screens at home and spend real face time with their kids.

—MARY AIKEN, *THE CYBER EFFECT*¹

When a precious newborn enters this world, chances are a smartphone will be in the delivery room, to capture that first photo. That image may end up on Facebook or Instagram, or be sent via text to an aunt, uncle, or grandparent, who might share it on their social networks. Thus, that tiny infant has become a citizen of a digital world.

The work of helping that little digital citizen build a solid foundation that will stand up to the uncertain weather and shifting sands of the digital age starts early. Family and friends are constructing children's digital lives, and children have unprecedented access to mobile devices, at increasingly younger ages. In the United States, nearly all kids age eight and under (98 percent) live in a home with some type of mobile device, and close to half (42 percent) have their own tablet. Mobile device usage for children in this age range tripled between 2011 and 2017—from only five minutes per day to forty-eight minutes per day—and one-third of their total screen time is spent using mobile devices.² Even more striking is that 44 percent of children under the age of one use mobile devices *every single day*. By the age of two, that jumps to 77 percent.³

You see the evidence of this everywhere you look—young children in cars, restaurants, and other public places with tiny heads bent over the glowing screen of a smartphone or tablet. There's even a name for this posture. Chiropractor Dean Fishman coined the term “text neck” in 2008, while examining a young patient who complained of headaches and neck pain.⁴ “Text neck” results from bending one's head over a mobile device. The gravitational pull on the head, which can weigh ten to twelve pounds,

and the stress it places on the neck, can lead to incremental loss of the curve of the spine.

I see text-necking toddlers all the time. Recently, while riding my bike along the California coast on a dazzling winter morning, I counted five toddlers in strollers, all bent over an electronic device and completely oblivious to seagulls fighting noisily over a piece of trash, surfers surveying the growing swell, the bright red lifeguard truck passing by, and pelicans skimming low over the water's surface. Five kids missed all this and more because their attention was locked on their screens.

WORLD'S BEST BABYSITTER

Mobile tools *are* excellent babysitters. They can soothe a fussy child or keep fidgety ones occupied, so a busy parent can make dinner, check email, or even go on a much-needed run. A 2014 study of children aged six months to four years in an urban, low-income, minority Philadelphia community revealed that almost all had access to devices that their parents used liberally as “babysitters”—when the parents did chores (70 percent), to keep kids calm in public (65 percent), during errands (58 percent), and at bedtime (28 percent).⁵ Parenting is relentless work, and for many, childcare is an unaffordable luxury. Besides, with over eighty thousand apps and games classified as “education- and learning-based,” it stands to reason that these young kids might be learning something.⁶ The preschool/toddler category in Apple's App Store is its most popular, accounting for 72 percent of the top paid apps.⁷ What could possibly be the harm?

That's the thing. We don't know. After all, the iPad is not even ten years old; it's a babe in terms of scientific research. Even kids who used them as toddlers are barely young teens today, so definitive data on their impact upon youth is pending.⁸

As a comprehensive literature review published by UNICEF in late 2017 puts it, “research in this area still suffers from theoretical and methodological weaknesses that makes the evidence collected so far unreliable and inconclusive.”⁹ The long-term impact of the short-term phenomenon of tablets, smartphones, and all the other mobile devices that have popped up in the recent past is unknown. That makes children the guinea pigs of our grand experiment.

I asked Dr. Pamela Hurst-Della Pietra about this. She is the founder and president of Children and Screens: Institute of Digital Media and Child Development, a nonprofit organization working to stimulate dialogue about the impact of digital media on toddlers, children, and adolescents. This national interdisciplinary research organization brings together experts in medicine, social science, neuroscience, education, and other fields to address three vital questions about children and technology:

1. How is technology enhancing or impairing children's ability to live happy, healthy, and productive lives?
2. How are years of electronically mediated interactions shaping children's physical, cognitive, emotional, and social development?
3. What should we do about it?

"Parents need to understand that this is all very new, and we don't have a lot of definitive studies yet," Hurst Della-Pietra told me. "Meanwhile, there has been a sea change in accessibility; now you can take these devices anywhere. While there are some amazing benefits—Skyping with loved ones, for example—there are risks, too, and we don't completely understand them. But we do know there are developmental milestones young children need to hit in order to reach their full potentialities."¹⁰

HELPING CHILDREN REACH THEIR FULL POTENTIAL IN A SCREEN-FILLED WORLD

Around the world, children and adolescents account for an estimated one in three internet users, yet the technology they use was not designed with their developmental needs in mind.¹¹ While little is known about the long-term impact of today's devices upon a young child, a lot is known about healthy child development.

Babies require rich, multidimensional experiences in a real, three-dimensional world. They need opportunities for hands-on exploration and human interaction with loving adults.¹² They thrive when they are read to, talked to, played with, and when they play with other children in real life.¹³ They benefit from being out in nature.¹⁴ A screen—regardless of whether it's a TV, tablet, smartphone, gaming console, computer, or

even an internet-connected toy—can't deliver the same experiences as the real world.

A quick peek under the hood explains *why* infants need these real-world experiences. A newborn has trillions of brain cells, or neurons, waiting to be called into action. Each of these tiny brain cells has about 2,500 synapses—connections that pass signals between these neurons. When electrical signals pass between these neurons, these synapses are stimulated. Like footpaths linking remote villages, every time they get used, or stimulated, they improve, and the remote villages pop into life. Every experience a baby has, from birth on, stimulates these connections, and repeated experiences strengthen them, shaping the child's behavior for years to come.

Just as important as the real-life experiences young children have are the ones they *don't* have, as this influences brain development, too. Neurons that aren't used—or synaptic connections that aren't repeated—get pruned away, while remaining connections are strengthened.¹⁵ Stimulated synapses then get hardwired and form the permanent foundation upon which the child's future cognitive functions are built.

Although children's brains continue this hardwiring or “intricate tapestry of the mind” well into their mid-twenties, much of the critical work happens between birth and age three.¹⁶ This is an extremely sensitive development period, when children need specific experiences from their environment to properly stimulate their developing brains and lay the foundation for all of their future relationships—online and offline.

ALL THEY NEED IS LOVE

One specific type of stimulation babies need is a parent or caregiver's loving gaze. The absence of stimuli delivered through facial expressions and eye contact could lead to disastrous consequences. In *The Cyber Effect*, author and cyberpsychologist Dr. Mary Aiken writes, “Many experiments over the past century have shown the catastrophic effects of sensory and social deprivation during this critical period in early childhood, and the subsequent effects on later development.”¹⁷

What happens to an infant whose parents spend more time gazing lovingly at their smartphones than at them? Aiken suggests that, over time,

these babies may be less able to interact face-to-face, less likely to form deep bonds, and less able to feel or give love.

Even though the middle-school students I teach are years removed from being infants, they continue to seem to crave a parent or caregiver's attentive gaze. They often complain how crappy it feels to be playing basketball or to be in the middle of a dance recital, only to look up and see a parent looking down at his or her phone. "It sucks," more than one preteen has told me. While this is sad, the thought of an infant not getting proper attention is even worse. The long-term implications of an entire generation of children not receiving the facetime they need from loving caregivers remains to be seen.

Screens also rob children of time spent talking, playing, interacting with parents and friends, engaging in creative activities, and so forth. Obviously, when they are looking at their phones or computers, parents talk and play less with their children. And if kids are on their own devices, which more seem to be, then they are not talking or engaging with their parents or with other kids.

Dr. Jenny Radesky, a developmental behavioral pediatrician and mother of two small children, wanted to find out how common it was for adults to use mobile devices around children, so she conducted what has since become a widely cited study.¹⁸ She and her researchers surreptitiously watched fifty-five caregivers, usually a parent, with one or more children, in fast-food restaurants around the Boston area. Of the fifty-five adults they watched, forty used a mobile device during the meal. Sixteen used the mobile device throughout the entire meal. The researchers noted that the children, under ten years of age, bid for the phone-using adults' attention in escalating ways; while adults typically ignored the children's bids at first, they eventually responded in scolding tones, seeming insensitive to the children's needs. As of yet, no comprehensive study has measured the long-term impact on children who are ignored by caregivers whose absorption in their devices is so intense.

But consider the "still face experiment" conducted by developmental psychologist Dr. Edward Tronick in 1975, long before mobile devices distracted parents from their children.¹⁹ His experiment was simple: Mothers and their six-month-old infants were asked to engage in normal, animated play that included mirroring each other's facial expressions. Then the mothers were instructed to suddenly make their facial expressions completely

“still” or expressionless for three minutes. At first, the babies anxiously tried to reconnect with their mothers, but if the mother remained still, the child showed ever-greater signs of confusion and distress before finally turning away, looking sad and hopeless.

This commonly replicated finding in developmental psychology demonstrated that infants find the lack of face-to-face contact more disturbing than other violations of normal social interactions. Even adults who get “still faced” by partners who turn to their phones instead of toward their bids for emotional connection find this distressing. Michele Weiner-Davis, of an organization called *Divorce Busting*, writes, “Every time you turn away from your spouse or he/she turns away from you, whether you show it or not, your response is not dissimilar to the baby.”²⁰

In short, young children—and, as it turns out, married people—crave authentic human interaction. So if you or your young children are spending more time looking at gadgets than each other, critical neural pathways likely are not being properly stimulated, thus putting the development of important relationship-building human qualities at risk. As Aiken puts it:

A baby’s needs are not high-tech . . . technology has proven to be less than beneficial for [babies’] healthy development. So far, no electronic device or app can replace cuddling, talking, laughing, playing a silly game, holding hands, or reading a book with your child. I have no doubt that someday tech developers and designers will create apps that can truly enhance learning for infants and toddlers, and then the educational value of screens will change. Until then, what we need most is an app that reminds parents that they need to ditch their own screens at home and spend real facetime with their kids.²¹

BUT SCREENS ARE EXCITING!

While handing a screen to a crying child might have immediate calming effects, for both you and the child, the long-term impact may be the opposite of what you bargained for.

Dr. Pamela Hurst Della-Pietra worries about mobile devices being used as “digital pacifiers,” as she calls them. “When parents do this,” she says, “babies and toddlers are not learning how to soothe themselves, and that is really, really important.” She suggests giving children “activities that

promote discovery and wonder. Traditional toys, such as blocks, have been time-tested, and we know have multiple benefits for young children. Giving children a chance to be bored isn't such a bad thing either."²²

Letting children experience boredom is becoming increasingly difficult in a digital world that competes mightily for their attention. After all, much of what children see and do on screens is exciting! Rapid scene changes and fantastical stories make real life appear dull and boring in comparison. The downside of capitulating to your children's requests for digital entertainment is that their ability to pay attention and focus may be adversely affected by overstimulation during important developmental windows, especially in early childhood.²³

In 2015, I attended one of Hurst-Della Pietra's gatherings of researchers and scientists at UC Irvine. During a compelling presentation about his research on technology's impact upon young children, Dr. Dimitri Christakis, director of the Center for Child Health, Behavior, and Development at Seattle Children's Hospital, shared this: The more TV a child watched between the ages of one and three, the greater likelihood that child would develop attention problems by age seven. For every hour of television watched per day, risk of attention problems increased by almost 10 percent. Conversely, the more cognitive stimulation a child received before the age of three (e.g., being read to or talked to by a caregiver), the less likely they were to have attention problems.²⁴

Sensitive young brains show immediate effects from overstimulation by television, too. Researchers from the University of Virginia discovered that preschoolers who watched just nine minutes of a fast-paced cartoon performed significantly worse on tasks that required attention than kids who spent twenty minutes drawing.²⁵

While both of these studies involved television and not today's interactive technologies, TV and video studies remain the best we have to go on when trying to figure out what new screens may be doing to young minds.

WHAT IS KNOWN ABOUT TV, VIDEO, AND YOUNG CHILDREN

For children ages two and under, the effects of screens have been mostly negative, particularly regarding two important components of healthy development: language development and executive function.²⁶

Let's look at language development first. Numerous studies have demonstrated that videos and television are ineffective at helping children under age two gain these skills. One study of children between twelve and eighteen months set out to determine if they could learn twenty-five new words more effectively via a screen or interaction with a live human. One group watched DVDs containing the new words several times a week for four weeks; another group was introduced to the words by parents who used them in their everyday interactions. The result? The children who learned the most words were those who learned them from their parents.²⁷ This study, and many others like it, demonstrate that the best way for a baby to learn to talk is through live interaction with human beings.

It's not just language that young children have trouble learning from a screen. In another study, a group of children from twelve to eighteen months were shown a multistep sequence of movements on a screen, while a second group of young children was taught the same movements by a human. The human-instructed children learned the routine better. This phenomenon has since become known as the "transfer deficit."²⁸ Scientists believe that the root of the transfer deficit is that children under two years of age do not have the symbolic thinking skills necessary to understand that what's on a screen is a symbol for the real thing.²⁹

But an emerging body of research on new, interactive technologies suggests that their impact upon young children may be different from TV and video. Researchers recently discovered that children aged between twelve and twenty-five months who participated in a daily video chat (think Skype) with the same partner over the course of a week not only learned new words via these interactive exchanges, but also created and maintained social bonds.³⁰ Even though this study did not include a live interaction group for comparison, it's important to keep in mind that, for many families, live interactions with faraway grandparents or other relatives is impossible. It is wonderful to have evidence that using screens to connect loved ones has positive benefits, even for very young children.

PREPARING CHILDREN FOR SCHOOL

Of all the possible effects screens may have on young minds, I think the one that begs for closer scrutiny is any impact they may have on executive function.

In case you are unfamiliar with the term, executive function is commonly thought of as the CEO of the brain. It's in charge of making sure we can focus on, retain, and work with information in our minds, filter distractions, and switch gears.³¹ When children have executive function problems, any task that requires planning, memory, organization, or time management becomes a challenge. Executive function becomes increasingly important as children make their way through school and have to pay attention in class, keep track of their work, complete homework assignments, and apply previously learned material to their current studies.

Executive function is an essential capacity for children to develop. According to a Harvard University report, "Acquiring the early building blocks of these skills is one of the most important and challenging tasks of the early childhood years. [Executive function] strength is critical to healthy development throughout childhood, adolescence, and early adulthood."³²

While there is considerable concern that screen exposure may negatively influence the development of executive function, research on this issue has produced mixed results.³³ But we do know this: Attention-Deficit/Hyperactivity Disorder (ADHD)—which some researchers believe is a deficit in executive function—is on the rise.³⁴ According to the Centers for Disease Control and Prevention, in the U.S. alone:

- One in ten children between four and seventeen years of age have been diagnosed with ADHD.
- The number of young children (ages two to five) with ADHD increased by more than 50 percent between 2007 and 2012.
- The percentage of children with an ADHD diagnosis continued to increase, from 7.8 percent in 2003 to 9.5 percent in 2007 and to 11.0 percent in 2011–2012.³⁵

There is no consensus on what is causing this alarming rise of ADHD. More awareness of ADHD? Earlier diagnosis? Increased screen time? Many lay the blame on screen time, pointing to studies that show a correlation (though not necessarily causation). Lesley Alderman, who reported on this issue in *Everyday Health*, wrote, "A recent study assessed the viewing habits of 1,323 children in third, fourth, and fifth grades over thirteen months and found that children who spent more than two hours a day in front of a screen, either playing video games or watching TV, were 1.6 to 2.1 times more likely to have attention problems."³⁶

As debate rages on as to whether too much screen time is causing inattention in school or elsewhere, Dr. Nicholas Kardaras, one of the country's foremost addiction experts, writes in *Glow Kids: How Screen Addiction Is Hijacking Our Kids—And How to Break the Trance* that he would “offer several arguments to push the dial toward causation rather than correlation—meaning that screens are indeed causing disorders of attention.”³⁷

DO SCREENS MAKE IT HARDER FOR KIDS TO FOCUS IN SCHOOL?

I've made it a habit to ask educators if they think technology contributes to inattention in the classroom. Shelley Glaze-Kelley, the educational director at Journey School, is one of them. For the past two decades, she's been either a teacher or an administrator and thus has spent a lot of time in various classrooms. Glaze-Kelley and I have taught Cyber Civics together, so I've had the opportunity to see how kids light up when she enters a room; they know she's about to entertain them with a funny story or an impromptu dance party. It is hard to imagine that she ever struggles to hold the attention of a classroom full of kids, yet she tells me, “The biggest difference I've seen in students is the lack of focus and the amount of time a student can stay focused. Ten years ago, when I was a fourth-grade teacher, I typically held class meetings that lasted for forty-five minutes. But today when I work with fourth graders, I find they can only pay attention for, say, fifteen to twenty minutes before needing to transition into a game, side conversation, or some other activity. Their attention spans just aren't the same.”³⁸

She believes this is the biggest challenge in education today. “We're dealing with children who are so stimulated and so used to seeing something for five minutes, and then something else for five minutes, and then ‘oh, if I don't like that, I can swipe and get something else.’ Educators can't match those same experiences. So students are uninterested mostly because of their attention spans, which is extremely unfortunate and hard for a teacher to fix. It's become a major challenge in today's classrooms.”³⁹

I find it challenging, too. Today, a small latte from Peet's Coffee no longer sustains me through the four back-to-back classes I teach at Journey School on Mondays. It takes a large espresso with an extra shot, and sometimes that's not even enough caffeine to catapult my energy level into the same

stratosphere as my students. What's got them so amped? Judging from their chatter, it's the video games they're playing, the coding they're learning, the YouTube videos they're watching, the pictures they're taking and posting, and the group texting they're participating in. While adults worry that kids can't focus in class, these same kids seem pretty darn capable of focusing their attention on the things they do online.

It's the same at every school I visit—large and small, private and public, those with the strictest media policies and those that have a laissez-faire attitude toward tech use. Kids everywhere are excited about technology and eager to talk about it. Even families who do their best to keep their young kids tech-free are raising them in a world where technology dominates our spaces and conversations, and that's not going to change. But Glaze-Kelley is right: This cultural shift *is* making it harder for everyone to get through the school day. Somehow, we have to help kids gain the skills they need to be successful both offline and online.

This work must start when you have young ones at home and can exert a modicum of control over their day. Be mindful of the potential impact of screens upon their social skills, language development, and attentional capacities. This is the foundational work you must do while you have the chance. It will pay off in spades as they get older and their enthusiasm for all-things-tech kicks in.

As Dr. Pamela Hurst-Della Pietra puts it, "I'm not saying there is no place for technology. It can be hugely beneficial, but it also poses huge risks. It's up to us to understand what those risks are and to mitigate them."⁴⁰

MAXIMIZING BENEFIT, MITIGATING RISK

Unless you plan to raise your kids with paper bags securely fastened over their young heads, it is inevitable they will encounter screens—probably interactive ones—as they grow. And as determined as you may be to shield your youngest children from them, this is an impossible task today.

"I'm a pragmatist in these things," says David Kleeman. "Families do what they have to do to make their lives work."⁴¹ Kleeman, who describes himself as an itinerant children's media expert, is the senior vice president of global trends for Dubit, a strategy and research consultancy and digital studio based in the UK. He has led the children's media industry in

developing sustainable, kid-friendly practices for over three decades, and thus has watched families grapple with this issue for a long time.

“Between ages zero and two, there is no need for a child to be on devices; they are just not going to get anything from them that’s going to be critical in later life.” However, Kleeman told me it concerns him when parents are made to feel guilty about exposing their young children to screens.

As we spoke I recalled delivering a presentation at a school that was staunchly tech free. A young mother raised her hand to ask if I thought it was okay to let her toddler watch a kids’ show on her iPad while she made dinner. “I’m with my child all day, and by five o’clock, I’m exhausted. Sometimes I just need a few minutes to get something done.” Though I was there to support the school’s no-screens-for-young-eyes policy, in this case I couldn’t do it. I flashed on all the times I’d been utterly exhausted, too, with a husband out of town, and two small children begging to be entertained while I tried to pull dinner together. Thank goodness for Steve Burns, the engaging host of the children’s show *Blue’s Clues*. Without his help, my young children most certainly would have starved, and that’s what I told the young mother. We do the best we can do.

“I don’t say ban it; I don’t say it’s all fine. I say let’s empower families with the knowledge they need to make their lives work,” says Kleeman.⁴² If early societies could figure out how to live with their new tools, certainly we can figure out how to live successfully with ours as well.

INTRODUCING TECHNOLOGY IN DEVELOPMENTALLY APPROPRIATE WAYS

In 2012, the National Association for the Education of Young Children (NAEYC) and the Fred Rogers Center (FRC) crafted a joint position statement to help early childhood educators understand how to use technology in developmentally appropriate ways with their students.⁴³ Although published in 2012, eons ago in technology years, according to Dr. Chip Donohue, director of the Technology in Early Childhood (TEC) Center at the Erikson Institute and one of the authors of the statement, it “has stood the test of time.”⁴⁴ Their recommendations are relevant today, for both educators and parents:

- When used intentionally and appropriately, technology and interactive media are effective tools to support learning and development.
- Intentional use requires early childhood educators to have information and resources regarding the nature of these tools and the implications of their use.
- Limitations on the use of technology and media are important.
- Special considerations must be given to the use of technology with infants and toddlers.⁴⁵

Current screen time recommendations for infants and toddlers are as follows:

- For children younger than eighteen months, avoid use of screen media other than video chatting.
- Parents of children eighteen to twenty-four months of age who want to introduce digital media should choose high-quality programming and watch it with their children.
- For children ages two to five years, limit screen use to one hour per day of high-quality programs.⁴⁶

“We’re seeing great promise when technology is used intentionally and appropriately and in the context of relationships,” says Donohue. “We’ve gone from worrying about technology to having deeper conversations about its appropriate and intentional use and more.”⁴⁷

USING TECHNOLOGY WITH INTENTIONALITY

It seems fitting that the Fred Rogers Center is still providing guidance on how to use technology with intentionality. Most adults fondly remember the *Mister Rogers’ Neighborhood* television series from their own childhoods. I know I do. Even though my parents hated it when my four siblings and I plopped ourselves in front of the TV, as they were sure it was rotting our brains, they never complained about Mister Rogers. I can hear his soft, melodious voice coming from the TV in my family’s living room as he sang his theme song, “Won’t You Be My Neighbor?” while changing

into his sneakers and trademark cardigan sweater. Who can forget being transported to his “Neighborhood of Make-Believe” to visit King Friday, Lady Aberlin, and Henrietta Pussycat, before returning to the quiet comfort of Mister Rogers’s house via the castle’s adorable trolley? Rogers skillfully employed the technology of his day—television—to thoughtfully and purposefully introduce children to positive character traits. My siblings and I remember the lessons we learned from this kind and gentle role model. Even today, Mister Rogers provides a powerful example of how technology—whether it’s TV, a tablet, or a smartphone—might be used to deliver positive content to children in developmentally appropriate ways.

Face it—we aren’t going to win the battle against screens in the daily lives of our young ones. My parents couldn’t do it with TV, and it’s even more difficult now that the screens go everywhere we go. But we *can* and *must* be intentional about their use, especially with young children. This includes choosing Mister Rogers–like content (like the PBS series *Daniel Tiger’s Neighborhood*, the animated program built upon Rogers’s social-emotional understandings), limiting screen time, co-viewing, explaining, and basically being present. Sorry, folks, but you have to put down your own devices to do all of the above.

As parents, caregivers, and educators grapple with the daily, continued encroachment of tablets, smartphones, voice-activated home speakers (like the Amazon Echo), interactive toys, and other devices, Fred Rogers reminds us that we can find a sensible path forward.

In a follow-up report to the original position paper, authors Dr. Katie Paciga and Donohue continue to draw upon Rogers’s approach to whole-child development. They write, “Like Rogers emphasized, too, we argue that the child’s interactions with other people remain incredibly important—the screen cannot ever replace the impact and influence of a caring adult.”⁴⁸

“Screen media and technology tools should always be used in the context of (or with the potential for) social interaction,” says Donohue. He advises parents to “understand how technology can be a tool to encourage interactions and strengthen relationships, not just disrupt or prevent them.”⁴⁹ In the words of Rogers himself, “Nothing will ever take the place of one person actually being with another person. There can be lots of fancy things like TV and radio and telephones and the internet, but nothing can take the place of people interacting face to face.”⁵⁰

TIPS FOR RAISING YOUNG CHILDREN IN A WORLD OF SCREENS

While you can't change that screens are here to stay, you can change how you raise your little ones in a screen-filled world. Be mindful of what young children need most—face-to-face interaction with loving human beings. This is how children gain social skills, emotional self-control, creativity, resilience, and most of all, the ability to get along with other people and to see things from other perspectives.⁵¹ These are also the seeds of digital literacy. Screens keep these seeds from taking root and growing.

The work you do today will set the foundation for all of your child's interactions tomorrow, with people and with screens. It will be well worth your effort. Enact these four guidelines from "Children and Screens":

- **Set boundaries.** Limit exposure for the very youngest children, turn off devices during mealtimes or one to two hours before bedtime, and make children's bedrooms media free.
- **Monitor use, behavior, and content.** Block inappropriate content, watch and play the video games your children are playing, keep electronic media in public places, and talk to the parents of your children's friends about what your children do at their homes.
- **Be clear about what is acceptable.** Establish and enforce house rules about screen time, and don't let media interfere with family relationships.
- **Engage and lead by example.** Obey your own house rules, and remember your children are watching.⁵²

If you do decide to use interactive technologies with your young children (please heed the advice from the American Academy of Pediatrics and avoid screen use before eighteen months of age), consider the "Top Ten Tips for Using Technology and Interactive Media with Young Children," which Donohue recently shared with *Imagine Magazine*:

1. **Remember that relationships matter most.** Using technology with young children begins with low-tech, high-touch opportunities for interactions, shared experiences, discoveries, and joint-engagement with media.
2. **Integrate technology use into social and emotional learning.** Technology should be used in ways that support positive social interactions, mindfulness, creativity, and a sense of initiative.

3. **Use technology as a tool.** Technology is an additional important tool for exploring, learning, and creating that you can put in children's hands. It is not more or less important than other tools children use to learn in the early years.
4. **Trust your instincts.** Focus less on how many minutes a child engages with screen media and more on the quality of the content, the context for using media, and the engagement level. Pay more attention to what the child is doing, not simply on how many minutes.
5. **Empower children to use technology as a tool for twenty-first-century learning.** Select technology that encourages inquiry, exploration, discovery, documentation, and demonstration of what they know.
6. **Provide beneficial technology experiences.** Offer media experiences that are engaging and interactive; include positive interactions with others; give the child control; emphasize interactions, language use, and relationships; and invite co-viewing and joint engagement with media.
7. **Make media use a language-rich experience.** Narrate your own technology use, and when children are using screen media, talk about what they're doing, ask questions, make comments, and offer suggestions about what they can do after the screen is turned off.
8. **Help children progress from just consuming media to creating it.** Simple tools like a digital camera are powerful media-creation tools when paired with a child's curiosity and creativity.
9. **Pay attention to your own technology use in front of children.** Children learn media habits and how and when to use technology by observing the important adults in their lives.
10. **Be a media mentor.** Young children need trusted adults who are active and intentional media mentors and role models to guide them safely in the digital age.⁵³

CYBER CIVICS MOMENTS

Skype with Loved Ones

My dear friend Patti Connolly is a school development specialist who has consulted and worked with schools, primarily Waldorf, for nearly thirty

years. Today she advises them on how to slowly introduce technology in developmentally appropriate ways. “Just as you would never hand over a kitchen knife to a two-year-old, you shouldn’t just hand them a digital device either,” Connolly told me. She suggests “satisfying a young child’s natural curiosity by showing them what these screens are all about and then how to use them in intentional ways.”⁵⁴ There’s that word again. Intentional. I asked Connolly to give me an example of intentional and developmentally appropriate technology use with young children.

Connolly’s work has taken her and her husband, Tim, also a longtime Waldorf teacher and administrator, to far-flung locations around the globe to work with various schools. They are also devoted grandparents to twin grandsons and use Skype regularly to stay in touch. “The boys don’t just want to chat,” Connolly told me. “They want you to move around and show them things, so that’s what we do. This is a great way to demonstrate some of the positive benefits of new technologies to young children. It shows them that it can be used for communication and connecting. People feel like screens close us off from one another, and this demonstrates the exact opposite. Screens can connect us with those we love.”⁵⁵

Here’s what you can do:

1. Do you have distant relatives and friends? Show your young ones how you use screens to keep in touch. If you don’t already have one, sign up for a Skype account (or one of the many other free communication tools available on the internet, like Google Hangouts or Apple FaceTime). If you have never used Skype, or other videoconferencing software, turn to Google or YouTube and type “how to use Skype” (or whatever tool you use). Dozens of instructional texts and videos will pop up to guide you through the process of installation and use. Let your young children see you using technology to figure out this new software.
2. When you use Skype (or another videoconferencing tool) to connect with your loved ones, ask them to use their screens to show you and your children where they are, who they are with, or what they may be doing. You and your children can do the same. Explain to your young children that, although your loved ones appear on the screen, they live in another house far away. Your children’s developmental stage will determine how much of this information they will or will not comprehend.

Explain, Explain, Explain

Satisfy your young children's natural curiosity by *explaining* technology to them every time you use it. Remember, children are mimics. They watch and note every move of the adults around them to learn how to become humans themselves. Think about what they see: adults compulsively grabbing their phones to check text messages, email, the weather, recipes on Pinterest, and who knows what else. Is it any wonder many small children grow into teenagers who can't put down their own phones?

Breaking this cycle begins with two steps:

1. Be mindful of how many times you use your phone in front of your young child.
2. When you must use your phone or other connected device, *explain* what you are doing and invite the child to do it with you. You can say:
 - Grandma is calling, and I'm going to answer the phone to see how she is doing. Would you like to talk to her, too?
 - I'm not sure what to make for dinner tonight, so let's look for a yummy recipe together.
 - We are going to the zoo tomorrow, so I'm going to look at the map to find out how to get there. Do you want to look with me?
 - The zoo is so much fun! Can I take a picture of you, so we can look at it later to remember what a good time we had together?

This exercise serves an ulterior motive. Explaining technology to your children every time you use it reminds you that you may be using it more than you need to. For example, try explaining this to your child: "Mama is checking her work email for the fifth time in a half hour." Unless you are expecting to find something urgent, doesn't that sound a bit ridiculous?

Explore Interests

When young children observe adults binge-watching dozens of episodes of a TV show, the message they get is that digital tools are entertainment-only devices. Chances are your little imitators will do the same—binge-watch

mindless programming—when and if they are left alone with technology. So make time, especially when your children are young, to demonstrate how to use technology to learn and explore interests.

1. Do you have a young child with a fixation on trucks, insects, or cooking? Use your screens to explore these topics together. YouTube Kids can be extremely helpful with this. But be forewarned: Whatever you are planning to watch with your child, be sure to watch it by yourself first. In 2015, Google-owned YouTube launched YouTube Kids with the best of intentions. The idea was to offer a kid-friendly version of their platform, which would be full of child-appropriate videos, many supplied by Disney and Nickelodeon. The site was supposed to automatically filter inappropriate content. But in late 2017, the *New York Times* reported that not-so-child-friendly videos were slipping past YouTube's filters, and young children were being exposed to inappropriate or even disturbing imagery. One such video showed a claymation Spider-Man urinating on Elsa from *Frozen*.⁵⁶ Not the type of thing you want your four-year-old to see. Although YouTube claims it has since remedied this problem, play it safe and pre-screen whatever you plan to watch with your children.
2. Limit your viewing to a maximum of fifteen-minute increments, and keep screen time limitations in mind. Remember that the American Academy of Pediatrics recommends *no* screen time for children under eighteen months of age (other than videoconferencing with loved ones), supervised screen time between eighteen and twenty-four months, and no more than one hour maximum for children up to age five. Never leave your young child unsupervised, and be sure to co-view and explain what you are watching. Remember, young children cannot draw connections between what they see on the screen and real life. It's your job to do that for them!