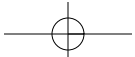


CHAPTER 1

THE EDUCATION OF
THE FUTURE—
HERE TODAY



It is 7:30 on a Monday morning and McKenzie, age 12, wakes up, kisses her Chihuahua, Ringo, says good morning to her parents, and gets ready to jet off to her classes at an academy that specializes in teaching math, science, and engineering. She attends school on Mondays and Wednesdays, taking classes in pre-algebra, history, and English with 15 other students. Her teachers stay in contact with her, as well as with her parents, by e-mail and a program called SnapGrades, which informs them almost daily about McKenzie's progress.

Thursdays are different for McKenzie. She catches up on work for her classes, works on her weekly history essay with guidance from her tutor via e-mail (and from her dad from his classroom 20 miles away and from her mom who works in a home office), and

works on her grammar skills in a self-paced course at Universal-Class.com. Next, McKenzie uses an online math program to help her grasp challenging concepts, reads a chapter in her history book, then meets with her French tutor at a local coffee shop. The meeting is conducted entirely in French since McKenzie hopes to become fluent and one day live in France.

On the same Monday morning McKenzie's 15-year-old sister, Madison, takes her terrier for a walk while she listens to a lecture on psychology from a Pulitzer Prize-winning professor and then a lecture on history from a Stanford University professor, both downloaded from iTunes U to her iPod. Once back at her desk, she puts in a DVD and watches a lecture on geometry for a course. Next she uses her computer to "attend" a class from a self-paced online MIT biology course, then meets with her supervising teacher to review her progress in preparation for the high school exit exam. Later in the day, her language arts tutor, an associate professor at Stanford University who works for the gifted and talented program, meets her at the local park where they discuss *Pride and Prejudice*.

On Tuesdays and Thursdays, Madison, who has a passion for Jane Austen, physically attends a course on British literature at Sacramento State University. The professor acknowledges her during the lecture as the youngest in the accelerated college entrance program's history. On her way home, Madison stops at a special event on campus and she signs up for a workshop for aspiring authors, where she'll share the novel she is writing. At home she meets with a tutor to work on one of her college essays. Later in the day, Madison completes a Chinese language lesson online and e-mails her completed essay to her tutor for final editing.

Their 18-year-old sister, Randall, is now a full-time college student. She graduated from high school a semester early with a year of college credits. One of the highlights of Randall's primary

schooling was a special online program, and an actual weeklong expedition, with Robert Ballard, the oceanographer who found the *Titanic*. As Randall was encouraged to optimize technology throughout her elementary and high school years, she is proficient at doing the same as a college student. Driving to her college classes in the morning, she uses the iPhone app Evernote to dictate an essay she'll begin writing back at her laptop that evening. She also uses other iPhone apps such as Study Aid to create customized flashcards, Memoreasy to study more efficiently, and Stanza to access over 25,000 free e-books for class research. Her acumen in combining virtual resources with conventional classroom-based classes has translated into landing a spot on her college's President's Highest Honors list. As Randall moves into her second year of college, she explores many possible career paths. She loves acting and is auditioning for a lead in the college play. She is also on the costume committee and sings in a community music program. The many years of access to passionate mentors and teachers in various fields have given her confidence and have helped her to take these pursuits to the next level. She even has taken steps to launch her own clothing line.

These aren't kids in a futuristic movie or an episode from *Lifestyles of the Rich and Famous*. Nor were these girls playing chess at age two, or acing algebra at age six as they raced on a fast-track academic career to MIT. In fact, math isn't their best subject and they struggle with it, like many kids.

McKenzie, Madison, and Randall's education is an example of how to combine classroom-based and online resources in order to customize a learning plan. The Kanna girls call themselves "virtual schoolers." They take some classes at a public school and use the computer or other technology for another portion of their coursework. Their parents, Elizabeth (co-author of this book) and Michael, have assembled programs from the Internet, the community, and the

classroom and created a customized education for their daughters under the auspices of a public school. The public school ensures that the girls meet the state requirements for a high school diploma and issues them reports cards.

The flexibility of their education is thanks to a charter school in California. All the classes, online programs, and services the Kannas have accessed are available through publicly funded schools, school programs, and free or nominal-fee resources online. An education previously reserved for the wealthy is now available to all.

Your children can learn from the smartest people in the world and access the best quality curricula and other innovative public resources that together are creating a revolution in the quality of U.S. education.

TWENTY SCIENCE BOOKS IN ALL OF EUROPE

Somewhere around the year 1449, a man named Gutenberg created a new technology that revolutionized how humanity learned and shared knowledge. The printing press increased literacy and supported an exchange of ideas that previously had been denied to all but a select few.

Virtual schooling is similarly positioned to create a twenty-first-century revolution that will change our society. Like the printing press, virtual schooling gives us previously unavailable access, choice, and power when it comes to shaping our children's education. Whether it is access to the contents of a rare book, the best math curriculum in the world, experts in every field of study imaginable, or AP courses taught at an elite institution, you can utilize today's technology to personalize your child's education according to his or her needs.

Just as Gutenberg's printing press expanded the amount of available information in Europe more than 500 years ago, virtual

schooling is creating a revolution in education and an exponential leap in humanity's capabilities.

DIGITAL NATIVES IN NINETEENTH-CENTURY SCHOOLS

If we want to change the wallpaper settings on our smart phone, we turn to our smart 12-year-old instead of trudging through the manual. Our children “speak” the digital language. Having grown up in a digital world, they are digital natives, while we parents are digital immigrants. Growing up with all things digital has made them proficient multitaskers: answering text messages in a new text-speak, often hundreds a day while surfing the Internet, doing their homework, listening to music on their iPod, and checking into their favorite chat room at the same time. They also play video games and online role-playing games, in which a large number of players interact with each other in a virtual world. Growing up digital allows them to understand the language of our new digital landscape.

But we send our “digital natives” to schools created over 150 years ago.

The “common school movement” that Horace Mann, Henry Barnard, and other education reformers created in 1852 was designed for the training of future factory workers. School children were treated like automobiles on a factory assembly line. Teachers and curriculum were the production-line workers, planting information into children before dispatching them to the next station. It was a one-size-fits-all approach, with textbooks, blackboards, and limited learning resources available for children who were headed to factories for their entire work life. That is a period of history that no longer exists and a student that no longer exists.

Today's children learn differently.

They have lived only in a digital world. They learn, communicate and play utilizing digital devices and computers. They require—

and deserve—an education tailored to the digital world they'll work in, far removed from the factories of a distant past.

THE SCHOOL OF THE FUTURE—HERE NOW

According to the International Association for K–12 Online Learning (iNACOL) website (www.inacol.com), online learning is growing at a pace of 30 percent annually and 44 states have significant supplemental online programs. Clayton Christensen, in *Disrupting Class*, states that enrollments in state-accredited online courses went from 45,000 in 2000 to roughly one million in 2007. Christensen estimates that by 2019, less than ten years from now, with a looming shortage of teachers and widespread state budget crises, enrollment in online learning will *surpass* that of live instruction.

Virtual schooling started as a disruptive technology, a technological innovation that improves a product or service in ways that the market does not expect. Because disruptive innovations tend to be simpler and more affordable than existing products, they become the norm within a new market or arena of competition. These innovations start to handle more complicated problems, and then they take over and supplant the old way of doing things. Computer-based learning first became popular for AP classes, rural schools with a shortage of courses or qualified teachers, urban schools in low-income areas, and homeschooling families. Next, several visionary entrepreneurs saw the potential of leveraging this emerging technology to solve complicated problems facing the educational system. Entrepreneurs like Keith Oelrich and Ron Packard. Oelrich, CEO of Insight Schools, founded Insight Schools to help solve the U.S. epidemic of teenage dropouts. Ron Packard, CEO of K¹², Inc. founded his technology-based curriculum company to level the playing field of access to a competitive education by offering a

world-class curriculum and school to any child with access to a computer and a passion for learning.

Packard and Oelrich faced staunch opposition but held firm in their convictions that virtual schooling was the future of education as did many other virtual schooling innovators like Barbara Dreyer, CEO of Connections Academy and Julie Young, president and CEO of Florida Virtual School. Their independent, yet congruent missions required spending thousands of hours to educate legislators, school administrators, and teachers that public virtual education should and could be an option for every child in the country. A mission they are all still pursuing today.

With the click of a mouse, a child with a passion for learning has the ability to break down barriers imposed by income, race, distance, or their school's limited coursework and class offerings. That innovation is propelling virtual education to develop at breakneck speed. So fast that we don't know how virtual schooling will be defined in the future. Never before have so many options existed for parents and children to leverage the expertise of people and learning opportunities from all around the world.

But the human interaction necessary to educate a child—to engage students, teachers, and parents is the foundation of learning. Regardless of the technological advances for learning, nothing can replace you and your commitment to your child's success.

THE NEXUS OF HUMAN ENGAGEMENT AND TECHNOLOGY

Technology alone won't transform education. Taking our current model of one-size-fits-all education and delivering it from an online-learning school platform or other cutting-edge digital delivery

method is like taking a Model T, adding new tires, and hoping it will fulfill the needs of car drivers today. This is a short-sighted attempt at leveraging the benefits of technology for education. Any virtual school program or curriculum must respect how each of its students learns best. We believe this new model of education, virtual schooling, represents the nexus of engaged human involvement and the new delivery method for curriculum and programs.

Accordingly, we define virtual schooling by the potential it holds: We see it as a personalized learning approach accomplished by leveraging the best of virtual and classroom-based schools and programs tailored to a child's needs and interests. Virtual schooling holds the potential to be the twenty-first century educational approach that can best address every child as an individual with a dominant learning style, myriad intelligences, a unique learning pace, and unique aspirations.

A child that is nurtured to respect how he or she learns best, the pace at which he or she likes to learn, along with his or her intelligences, unique talents, and passions, will learn to respect that elegant mix for the rest of his or her life. Christopher Paolini, author of the best-selling *Eragon* book series, graduated from high school at the age of 15 after having participated in an accredited correspondence program. That program allowed him to work at his own pace and afforded him the freedom to explore his love for nature and literature. Now, all children can have that same opportunity.

WHY THE TIME IS NOW FOR ALL PARENTS TO EXPLORE VIRTUAL SCHOOLING FOR THEIR CHILDREN

Across the country, we ask our teachers to do the impossible every day—educate twenty-first-century children in a nineteenth-century-inspired model of education.

All too often, the maxim in public school teaching is “Teach to the middle.” This means that the level of instruction and assign-

ments may be too easy for the top third of the class and too hard for the bottom third. The result? The brightest go unchallenged, which leads to distraction. The below-average achiever is overwhelmed, often humiliated and angry, and they, too, gradually check out. Could this student lethargy and “checking out” be part of the dire public school statistics today? According to the Milken Institute, by the year 2015, 80 percent of the world’s scientists will come from Asia, contributing to the valid concern that our students are not being groomed and trained for critical scientific careers.

The Average Joe graduating from the factory-model K–12 education system is underprepared to compete in our technology-centric workforce. We send our digital natives to school and many graduate underqualified for a career in technology, forcing U.S. businesses to recruit employees from other countries, or, worse, out-source the work entirely.

Alone, each of these statistics and changes in society is alarming. Collectively, they represent an intellectual crisis. “We need an intellectual change,” says Susan Hackwood, executive director of the California Council on Science and Technology and a virtual schooling parent. Whose job is it to fix the growing disconnect between our K–12 education system and the skills our children need to succeed? Is it the government’s place, our boards’ of Education, or our teachers’? Yes to all of the above, but more than anything, the responsibility is ours. Technology is redefining the way we live. Education is no exception. Gone are the days when we can settle for limiting the involvement in our child’s education to helping with homework, joining the PTA and attending school functions. Our children need us to be their advocates to ensure they receive the twenty-first-century education the new workplace demands. While some schools are excellent, not all schools are created equal. No one has a stronger desire to see a child succeed than her parents. Gandhi once said: “Be the change you want to see in the world.” America

needs our children to be the intellectual change we must see in our world.

VIRTUAL MENTORS: A DIFFERENT LENS TO THE WORLD

Youth in America access the Internet and are quickly inundated with the latest “news” about Paris Hilton and Britney Spears, but how many of them have gone online to read about Richard Sandor? How many have heard about Richard Sandor? Richard Sandor, economist and professor, wrote a prescient paper on how to solve a potentially catastrophic environmental challenge we were facing in the 1970s. His paper was the catalyst for finding a way to solve the acid rain problem. With his collaboration, the Clean Air Act passed and contributed to eliminating the challenge to our environment.

Fast-forward to 1992, when Sandor wrote another paper proposing a solution to global warming. Sandor then launched the first trading system for greenhouse emissions to combat CO₂.

Sandor has made helping save the planet his life’s work. Paris Hilton has made being a celebrity, taking advantage of photo opportunities, and attending parties her life’s work. But which one does your child know about? How do we protect our children from seeing a limited and dumbed-down version of what is going on in the world and help to expose them to what is truly important? We change the lens they are using. If your teen attends UC Berkeley, they might have an opportunity to learn from Steven Chu, Nobel Prize-winning professor and now the U.S. secretary of energy. Today, any teen with an iPod, iPhone, or iPod Touch can listen to Chu’s lectures on solving our energy needs. Does your child have a passion for design or art? The New York Public Library has a miniseries at iTunes U that features artists and designers, from glassblowers to letterpress printers. Mentors can be from the past as well. Einstein’s discoveries teaching

about time and space are no longer restricted to mentions in your child's textbooks. These are all free video and audio podcasts at iTunes U. By utilizing virtual mentors as part of your virtual schooling with your child, mentors are no longer restricted to a geographic location or an in-person relationship.

The person your child grows up to be will be largely based upon the influences you provide in his or her life. In the past, these great mentors could only be accessed through deliberate trips to the library and hours of research. Through today's virtual learning opportunities, these mentors are now available through a click that transcends barriers of time and geographical limitations. We now have the power to provide the lens that shapes our child's future. What lens is she using for that view?

ACCESS = A+ IN MATH AND SCIENCE

What are the chances technology won't continue to transform our lives, our workplace, and the world? Pretty small. Today, America's 15-year-old students trailed their counterparts from many industrialized nations and were farthest behind in math and science.¹ Experts are unanimous that the teaching of math and science in elementary and high schools needs a critical transformation to keep up with the pace of change in our global economy. Most knowledge-based jobs demand mathematics and science knowledge and abilities. If we are 35th in math in the world and your child is doing "okay" in math in school, you can't assume she'll graduate with the necessary skills to compete in the workplace. Even if your child doesn't have strong aptitudes in science or math or is not exploring a higher education in science and engineering (only 4 percent of ninth graders go on to graduate in science and engineering fields, another critical issue facing the United States), knowledge-based

jobs (requiring math and science abilities) made up 85 percent of the jobs created in the last decade. Robert Kotick, CEO of Activision Blizzard, Inc., says that the greatest challenge facing his leading video game company is the lack of properly educated and well-trained potential employees. Regardless of your child's current education, supplementing his or her math and science learning is critical. Fortunately, there are a myriad of great programs online. Your child's study of science isn't restricted to a textbook but can expand out into a virtual lab or MIT lecture. If your child is struggling with an area of math, there are sites like www.yourteacher.com, which offers more than 1,000 lessons, or www.tutor.com, where you pay a reasonable fee per minute for tutoring. Math and science are intrinsically linked to your child's future success, period. Carl Sagan said: "It is suicidal to create a society dependent on science and technology in which hardly anybody knows anything about the science and technology."

WHAT YOU'LL GET FROM THIS BOOK

This book creates, for the first time ever, the overarching definition of this innovative form of education and compiles the most common methods being used today. Your approach can be comprehensive, a full "start-to-finish" curriculum with support, or it can supplement your children's current schooling to prepare them for success. It can also be a "blended approach," a customized education of mixed computer and hands-on classroom-based education. We define various terms being utilized in the market and new approaches to virtual schooling that are not yet defined, so that you have the knowledge to research what is offered and are aware of the requirements and possible supplemental benefits to optimize your child's current education.

Every family is different. As you seek to create a personalized education for your child, your lifestyle and routines will dictate

some of the choices you make. You'll learn that flexibility is one of the greatest attributes of virtual schooling, in that you can choose courses of study that work best for your budget and family dynamics while meeting your child's individual needs. The tennis star Maria Sharapova was a typical girl whose physical talents took her out of a seat-based classroom and on the road to realizing a dream. Through enrollment in a virtual school program she was able to combine her schooling with her competition schedules. Maria's education never missed a beat as she pursued her dream of becoming a tennis star who ultimately won Wimbledon. With virtual schooling, children can finish their academic learning in a more condensed time period. This efficiency gives them the extra time to explore their passions and help them enjoy the freedom to excel in the arts, athletics, or academics.

Whether you are a full-time working parent or you stay at home, options exist that will allow you to participate in your child's education. These methods of communication can keep you abreast of your child's progress and able to respond quickly as her needs and interests grow and develop.

We'll explore the seven approaches to virtual schooling and explain how to find schools and programs in your area. For example, in California, the charter school system offers personalized learning charter schools, and, therefore, the ability to maximize the benefits of a hybrid approach, as we saw with McKenzie, Madison, and Randall. The state of Texas has developed a computer laptop program in order to reach migrant populations, and all across the nation, charter programming is becoming accredited as an alternative to traditional public education. As a leader in virtual education, Kansas allows for students to take virtual courses while concurrently receiving certificates in vocational training so that students can graduate with both a diploma and job skills. South Carolina has led the nation in innovative education solutions by establishing a statewide

charter school district. In its first months of operation, thousands of students found the opportunity to complete their education virtually under the public system through a network of district-sponsored charter schools. The South Carolina State Department of Education was overwhelmed when just 12 short months after rolling out a supplemental virtual program, over 10,000 had students signed up—and that was just from within the state boundaries alone.

Regardless of where you live, if your child attends public school, private school, or is homeschooled, there are many virtual schooling approaches that can help you to personalize and enhance your child's education. We hope this book will inspire and help you in your search as you navigate all the options virtual schooling has to offer. We also hope it gives you the confidence to be like Guttenberg and join a new revolution in education.

VIRTUAL POWER—IT IS *YOU*

Virtual schooling, regardless of which approach you use, can provide your child with the education of a maverick. And you might feel like a maverick as well. It takes more time, effort, and energy to actively participate in your child's education, but nothing really worth having is easy. Virtual schooling transforms the definition of school from a building with teachers and blackboards and a fixed set of courses to infinite possibilities for learning and your child's future. Virtual schooling isn't a panacea for all of the educational challenges facing America. It does, however, give you and your child access to the brightest minds in the world and the latest innovations to optimize your child's learning. Utilize the virtual schooling resource guide in Chapter 8 of this book or online at www.ivirtualschool.com to supplement your child's current education or explore the possibility of a full-time virtual school, personalized learning charter school, or hybrid school that keeps your child engaged, passionate about learning, and always reaching for

her full potentials. As a parent, you have given the most important gift to humanity—our future.

WAIT! THIS ALL SOUNDS OVERWHELMING . . .

Two authors of this book are parents. We have jobs, aging parents, spouses, children (even teenagers!), and manage to virtually school our kids. We aren't preaching about virtual schooling and not living it! Like most working parents, there are days we feel overwhelmed by "doing it all" and some days we feel that we are letting our kids and families down with that constant juggling act. We also realize we have some advantages you might not as you begin to explore virtual schooling. However, we explored different approaches to education for our children, taking a leap of faith in our abilities and our kids' passion for learning. And in Lisa's case, even focusing her professional career to advocate for, develop, and manage virtual schools. Our virtual school maxim is to do our best every day, and if we don't some days, we start over the next. We aren't perfect and neither are our children. We love our children and want the best for them. Sound like someone you know? The rest you'll figure out as you go. So, let's get started!

FACTS ON VIRTUAL SCHOOLING

Virtual learning is not only here to stay, but is growing in influence and popularity daily. The International Association for K–12 Online Learning (iNACOL) is a nonprofit organization that supports access to high-quality online learning and serves as a leader in the online community. It provides resources and opportunities that allow the online community to learn, grow, and develop best practices. Recently, iNACOL published some fast facts regarding K–12 online learning and virtual schools, which can also be found on their website at www.inacol.org.

- K–12 online learning is a new field and growing at an estimated annual pace of 30 percent annually.²
- 42 states have significant supplemental online learning programs, or significant full-time programs (in which students take most or all of their courses online), or both. Only eight states do not have either of these options, and several of these states have begun planning for online learning development.³
- There are 34 state-wide or state-led virtual schools in the United States.⁴
- As of January 2007, there were 173 virtual charter schools serving 92,235 students in 18 states.⁵
- In 2000, there were 40,000–50,000 enrollments in K–12 online education.⁶
- In 2005, the Peak Group estimated online enrollments of 500,000.
- In 2006, the Sloan Consortium reported 700,000 enrollments in K–12 online learning.
- The Peak Group estimates 1 million enrollments in 2007.
- In April 2006, Michigan became the first state to require online learning for high school graduation.

The Pew Internet Project reports “the Internet is an important element in the overall educational experience of many teenagers”⁷:

- 87 percent of all youths between the ages of 12 and 17 use the Internet (21 million people).
- 86 percent of teens, 88 percent of online teens, and 80 percent of all parents believe that the Internet helps teenagers to do better in school.

- 85 percent of 17-year-olds have gone online to get information about a college, university, or other school they were thinking about attending.

Virtual schooling is access to knowledge, whether in the form of formal classes conducted in real time or recorded to be used in one's own time frame.

Virtual schooling is access to informal research, allowing a student to dive into the depths of a subject, driven by an internal passion that creates the desire to know more.

Virtual schooling is access to electronic communication that puts your child in touch with anyone anywhere in the world willing to engage in an exchange of ideas and, often, a lifetime of learning. It allows access to a globe teeming with mentors.

Virtual schooling is access to learning anywhere via technology, whether in a local park or around the world while practicing to become a Wimbledon tennis champion.

Virtual schooling is access to learning at any time via technology, allowing your child to seamlessly weave learning into the flow of life where learning styles can be honored, natural intelligences nurtured, curiosity satiated, and passions pursued.

Virtual schooling is a tool to raise your child to be a self-directed learner, a critical and lifelong skill essential for success.

Virtual schooling is a glimpse of the world your children will walk in as adults, allowing you to best prepare them to live, work, and play in a technology-centric world.

MOBILE SCHOOLING

Personal digital devices such as iPhones, iPods, and other smart phones are increasingly becoming the access point for learning. More than two thirds of children in the United States between the ages of 13 and 17 own a mobile device that they use for listening to music, texting friends and family, and communication. Optimizing our children's use of personal digital devices to include mobile learning applications can open the door so that learning can happen anywhere and anytime. It is a powerful supplemental learning tool for all approaches to virtual schooling.

Please see Chapter 8 for a list of Mobile Schooling resources.

