

INTRODUCTION

THE VETERAN ADMINISTRATOR AT THE END OF A CROWDED CONFERENCE TABLE HELD HER head in her hands.

“It shouldn’t be this hard.”

I left Charleston late that afternoon on the four-hour drive to Greenville. Over the past eight weeks I had visited more than fifty public and private schools on my solo drive around the country, and at many of these schools I had the same discussion about how organizational change is hard, particularly in schools with strong traditions of success or those subject to the fierce winds that blow from every point of the political compass. It is black-letter law on the subject of organizational innovation: *Change is hard*. Change brings displacement and even grief; it takes a long time; and all of that is OK. Every school I visited is undergoing some form of organizational and cultural change, and at almost every one, the forces opposing change seem to be at least holding their own against the brushfires of innovation. So we talked about the obstacles and disruptions of change, surfacing those points of difficulty, taking them from the shadows and admitting their power.

As I chased the setting sun westward through the rolling late-fall piney woods of South Carolina, I had a moment of epiphany, the fulcrum of my trip, two-thirds in the rearview mirror and still four thousand miles to go. It must have been the last two books I had read: *Armageddon*, the story of the

Berlin airlift, by Leon Uris, and *War*, the story of a year at forward operating base Restrepo in the Kharangal Valley of Afghanistan, by Sebastian Junger.

Kicking the Nazis out of Europe was hard. That was what my father's generation did. That was really hard stuff.

The Berlin airlift was hard. Homesteading the Kansas prairie was hard. The list kept growing in my head, each idea so vivid I knew I did not need to pull the car over to a rest stop to write them down.

Going to the moon.

Giving birth after twenty-four hours of labor.

Raising kids in poverty as a single mom.

Standing your post at a firebase in the grit of the Kharangal Valley for a year.

Saying goodbye to your child as he deploys to spend that year.

Those are hard.

Change at most schools is not hard; it is *uncomfortable*. Sometimes it might be *very* uncomfortable for some people. It can be messy, complicated, and tiresome. *Uncomfortable* means making some tough decisions. But using the excuse that we can't change schools because "it is hard"?—well, we need to get some perspective on the difference between *hard* and *uncomfortable*. *Hard* is fighting against every odd with no certainty of success or even of survival. The job ahead for Eric Juli, principal of the Design Lab school in the heart of the most depressed, gang-ridden section of Cleveland, is *hard*. This is a school with one floor in a crumbling old building, where Eric spends most of his day finding a snack for a pregnant girl who did not get breakfast or pants for a boy whose one pair is just too dirty for decency, a school where the teachers don't come to school and the students don't care—and yet Eric is going to change that learning experience against every force imaginable and won't rest until every graduate gets an acceptance to college. That's *hard*.

My Journey

For eighty-nine days I drove my 1997 Prius around the country visiting sixty-four public and private schools. I interviewed more than six hundred

teachers, administrators, students, and parents, asking them the same basic questions:

- What does innovation mean to you?
- How has your school changed to meet the challenges of a rapidly changing world?
- Is your school organized more for the benefit of the children or the adults?
- What do we really need to teach and learn in schools, and how are you doing that?
- What does that look like?
- What has worked?
- What has not?

The night before I set out on this trip, I packed the back of my car, got ready to leave my wife for the longest separation we have had in thirty years, and wrote in my journal:

Tomorrow morning before dawn I will drive off for three months on the road. I will miss my wife, Julie, who is putting up with the unknowns of this journey as much as I am. The last time I did something like this, I was single, twenty-four, filled a backpack with a few clothes and many rolls of film, and bought a one-way ticket to Kathmandu. My goal then was to have no goal, to see, learn, absorb, and understand a world far removed from that in which I had grown up. That journey took me through much of southern Asia, steered me into a teaching and research opportunity in the Philippines, and set my rudder in many ways for the rest of my life. Now, much older, back, joints, and patience less well attuned to sleeping on train platforms, my new step-off journey will be more physically comfortable. Sixty-dollar hotels may not be luxurious, but they are warm, dry, and safe. And of course I have already received hospitable and welcoming invitations to visit with many thoughtful and innovative educators . . . welcome mats mitigate discomfort in so many ways!

Though separated by thirty-two years and 180 degrees of longitude, in one way these two journeys are similar. My goal is still to see,

learn, absorb, and understand. My questions may be more focused after three decades of thinking, writing, teaching, and talking about how and why we learn, but I will try to be just as open to what the journey has to teach me as I was when my belongings filled a backpack, not the back of a Prius.

What This Book Is About

Our world is changing at a dramatic rate, and nowhere more rapidly than in relationship to the creation and management of knowledge. Public or private, across a range of structures, grade levels, traditions, demographics, and resource bases, K-12 schools share a number of common obstacles in “pro-acting” and reacting to these changes, and are overcoming those obstacles in ways that can be translated and leveraged by most or all schools. The future of education is being created right now, today. I know because I saw it and talked to the adults and students who are creating it. It is not an easy process, and the obstacles to change are big and real. But schools across the country are painting the strokes of a fundamentally different and better type of student learning. Taken together, these different strokes make up the picture of what that learning looks like and how we get there.

A number of authors have written compelling books that show us what good education looks like at a few schools. I take a different approach in looking at a large number of schools, connecting the common threads of great education at many of them, and charting a roadmap not only of what transformed learning for the future looks like, but also of how school leaders and organizations can get there. I didn’t send out a survey or do phone interviews with a few dozen schools and educators who are leading educational change. I did not even select most of the schools I visited based on their track record of innovation. I visited schools along my route and asked them about *their* definition of innovation, about *their* paths, obstacles, and successes. I watched and listened to hundreds of teachers, administrators, students, and parents, some who had planned to meet with me weeks in advance and others who I stopped in the hall or observed informally from the back of their classroom. These are *their* stories, voices,

and pathways to the future. To use a metaphor that will crop up throughout the book, my goal is to link the many wonderful, exciting, stimulating, energizing, passion-driven brushfires of innovation I found at almost every school I visited and help fan them into a conflagration.

Thirty years ago I sat down and asked myself a simple question: *What defines great learning?* I had no formal background in education other than my own experience as a student and a bit of teaching. I am only a little embarrassed to admit that I had never read Dewey or Piaget or Bloom. I decided that great teaching and learning required much more focus on student engagement and direction; students asking questions instead of regurgitating answers; students and teachers co-creating knowledge instead of consuming it; teaching systems thinking; problem finding instead of just problem solving. Some very prominent educators told us at the time, “You can’t teach that to students; they won’t get it.” Unfortunately we let those supposedly bright people sway us from what we knew was right.

As we entered a new century, bright educators and forward-looking people from many walks of life made the argument that the world was changing at a dramatic rate, the economic and social worlds have flattened, and technology has irrevocably disrupted traditional knowledge-based industries, including education. They said we needed to prepare students with a different set of skills, those needed for the twenty-first century. While I did not agree that these skills are any more relevant to this century than to any other time in human history, the conversation had suddenly changed.

The Goal of Education Has Changed

Today, most thoughtful educators agree that the industrial age model of content-driven education no longer serves our students. Here is the remarkably simple argument in a nutshell. The rate of change in the world is accelerating, and nowhere more than with respect to information. The sum of all human knowledge will soon be *doubling* every year, a frightening concept even if you are not good at math. Schools in the past have been tasked with teaching human knowledge to the next generation, knowledge

young people can use to conduct themselves later in life in civil society. It is no longer possible to convey the amount of information they will need or to be certain that the information we do convey will be relevant for very long. Technology has made knowledge nearly universally accessible, disrupting the foundation of education that has existed since people first gathered around fires thousands of years ago. The goal of education has changed from the transfer of knowledge to the inculcation of wisdom, born of experience, which will help students to succeed in an increasingly ambiguous future. Schools must either radically change what they do or very quickly become utterly irrelevant. If schools do not change, they will simply be bypassed, an outmoded mechanism that has served its purpose and passed into history. Simply, in order to not only survive but thrive, schools must develop comfort with, and capacity for, ongoing change.

If you are an educator, or if you care about the future of education and have a stake in education because you are a parent or an employer and know that our current system of education is rapidly losing relevancy, this book is for you.

How the Book Is Organized

The book has three sections. The first section identifies major obstacles to educational innovation that were most commonly reported in my visits, giving examples of schools that have successfully overcome those very same obstacles. Here are a few of the highlights:

- Time in schools is allocated according to an outdated assembly-line model based on subject, classroom space, and student age, not on optimum conditions for improved learning of each student.
- Schools are not fundamentally structured to accommodate or promote connectivity, risk taking, and nimbleness, skills the students will need in their futures and characteristics that will lead to schools to effectively innovate.
- Teachers are not given the time and resources to develop professionally, to connect with colleagues outside of narrow ranges of interest, or to become active learners.

- Leadership is frequently stuck in rigid, outmoded “Management 1.0” practices that are antithetical to innovation in knowledge-based organizations.
- Outcomes in both public and private schools are currently driven by inertia, college admissions offices, fearful parents, and political forces, not by the best practices of education and learning.

The good news is that for every combination of intransigent obstacles there is an example of a school that has successfully solved the problem. I will connect these dots of success. At nearly every school I visited, I identified processes, structures, and practices that have helped schools overcome the obstacles to innovation. Many of these schools are operating in a radically different fashion than they were just five years ago. These schools are finding creative ways to align five key resources (time, people, space, knowledge, and money) in ways that support desired teaching and learning outcomes. Class schedules are changed, sometimes radically, in order to allow and promote a pedagogy that is deep, contextual, and focused on the student, not the teacher. Leaders courageously promote risk taking and set up intentional, sustainable structures, processes, and lines of authority that promote the best practices of innovation. Leaders hire employees more for their ability and willingness to grow and learn over time than for content expertise and find the time and money to help those adults continuously upgrade their expertise as educators. These schools recognize that the options for education are radically expanding, so they focus on delivering value to their student and family customers.

The second section paints a mosaic of a dramatically changing learning experience taking place in schools that are successfully innovating. I found that we can group these brushfires of innovation into five categories that, together, define the learning experience of the postindustrial age:

- *Dynamism*: Teachers and students use time and space in dramatically new ways. They take advantage of new knowledge about how the brain works and how individuals learn, leveraging technology to differentiate the learning experience for each individual child. Teachers and students are co-learners, with students taking increasing ownership of their learning experience.

- *Adaptability*: Teachers develop a growth mindset, not just tolerating but actively embracing a level of constant change that reflects the world outside of class. Courses change and merge, and the boundaries of departments and subjects disappear. Teachers figure out how to improve standards-based outcomes with project, group, and student-centered activities.
- *Permeability*: School programs, and in fact physical schools themselves, are highly permeable, with students and teachers spending significant time off campus, in their communities and, through technology, connected with other knowledge participants around the world. In fact, the concept of “school” as differentiated from the “real world” disappears.
- *Creativity*: Learning increasingly emphasizes the creation of knowledge along with a balanced consumption of foundational elements of a liberal arts education. Students lead their own learning through design of problems, activities, and even course materials. Students and teachers become creators as well as consumers of knowledge.
- *Self-correction*: The institution becomes self-evolving, not slave to conflicting outside forces that are de-linked from educational best practices. Students and teachers take time for frequent and authentic reflection. They embrace the concept of empathy as a guiding beacon in what they teach and learn. They gain comfort with constant change and learn to break or avoid the chains of inertia.

Each chapter is fleshed out with concrete examples of schools and teachers who have already implemented and reimaged the learning experience.

The third section begins with a description of the global challenges that face education and a roadmap for how schools must retool their foundational assumptions to meet those challenges. The changes that futurists see in the evolution of education are dramatically larger than those being contemplated by most educators. We are perched on the cusp of two fundamentally different learning systems: the industrial age assembly-line model that has been in place for 150 years, and the evolving ecosystem model that more accurately reflects our best understanding of effective education for the future. The reason so many educators and parents are frustrated with our current educational system is that the characteristics

of these two systems are incompatible; we can't get where we want to go by just tweaking the controls on the assembly line. The driving characteristics of dynamism, adaptability, permeability, creativity, and self-correction are more closely aligned with the driving mechanisms of successful natural ecosystems, of rain forests, coral reefs, and prairie grasslands, not engineered assembly lines. Those who continue to try to cram the square peg of the industrial model and mindset into the round hole of learning for the future will become increasingly marginalized.

The penultimate chapter outlines the case for a forward-looking strategy for school communities based on a foundation of new design thinking. Since I finished my journey around the country I have been privileged to facilitate workshops with hundreds of educators who, given the opportunity, find many ways to challenge and reimagine the concept of what we call "school." The new foundation of what I call zero-based strategic thinking helps school communities to continuously, systematically, and sustainably increase the value of what they do well, instead of working from outdated models of strategic planning that largely revise goals based on legacy assumptions about what has and has not worked well in the past. Strategy becomes a continuous process of thinking, an organizational habit and capability that promotes ongoing innovation practices among all of the valued and valuable members of the school community.

The final chapter summarizes what I think are the big takeaways from my work and this book.

A Few Clarifications

I want to be clear on several points at the outset:

- The discussion of what good education *should* look like for the twenty-first century has run its course, and I am not going to reargue it. For more than a decade, educators and pundits have been discussing what good education looks like in the twenty-first century. I have sat with hundreds of thoughtful educators, students, and parents and asked them what they think students need to be successful in their future. Many more thousands of such discussions have taken place

in schools across the country. Nearly all of them end up with about 80 percent agreement on a list of skills that looks something like this: persistence, confidence, resilience, patience, openness, creativity, adaptability, courage, perspective, empathy, and self-control. (By the way, high school seniors at three schools in Dallas generated that short list. It took them a total of nine minutes.) We need to agree that this is a good approximation of the skills our young people need to survive in the future. We need to stop talking about what “it” is, and start *doing* “it.”

- Innovation is not about technology. In setting up the complicated calendar for my trip I asked school leaders to give me a few hours to learn about their most exciting new ideas and programs. Many asked me, “What do you want to see?” I left it to them with the caveat that I was not interested in talking about 1:1 laptop programs and iPad rollouts. Plenty of others have researched and written extensively about the role of technology in a new learning paradigm. In many visits I asked principals, heads of school, and other leaders this question: “If I walked down the halls today and asked all of your teachers, ‘What does innovation mean to you?’ how many would immediately default to something about technology?” Many nodded their heads, knowing this to be the case. We still think of technology too much as the goal of innovation and not a tool. Technology provides some of the arrows in the quiver of innovation. Real innovation in learning means reframing the mindset of the archers—the students and teachers—and that is the subject of this book.
- Change leadership busts, rather than reinforces, the silos of classroom and the administration office. On my visits and as I wrote the book I was frequently asked, “Who is this book for? Administrators? Leaders? Classroom teachers? Parents? Will you share concrete ideas for what I can do in the classroom?” The answer to all is a resounding “Yes!” We have to get past the mindset that leadership is the job of those at the top of the pay scale. Both leadership and innovation are vastly more effective and rapid in distributed, not hierarchical, organizations. Change is *not* outside the reach of everyone in the system. Leading change should be part of the “job description” of

every student, teacher, administrator, and parent. We are *all* leaders of educational change, so this book is for *all* of us.

- I visited public, private, and charter schools; my own work background was with independent schools, so I started my trip with more of them on my roadmap. Different schools face different political, demographic, monetary, and inertial challenges. This book is about what connects schools in their pursuit of innovation more than what separates them. Almost by definition, change is easier in private and charter schools than in many public school settings. By citing examples from private schools I am not showing disrespect or disregard for the challenges faced in public education. For more than a century, some schools have acted as laboratories for the larger field of education, and the lessons learned in these risk-taking lab schools are valuable for all of us. Public or private, we can all learn from each other, taking what is transferable and scalable for our own needs.
- My connections with schools did not stop when I finished this trip; in fact they accelerated, like the rate of change in the world of education. I am aware of new brushfires of innovation burning at schools I did not visit, and I have seen innovative schools connect and leverage each other's working pilot programs at an ever-increasing rate. Some examples I managed to work into this book before it went to press, and others I will find and report on via my blog, *The Learning Pond*, as quickly as I can. The schools I visited were the tip of the burning spear; there are hundreds of other schools where the same changes are smoldering, sparking, and in various stages of incipient combustion. If your school does not appear, I did not leave you out intentionally!

To get us kicked off in the right direction, here is my best stab at a rationale for the innovations that we need to encourage, embrace, and embolden in our system of education:

- Students and teachers need the skills to be successful in a fluid, rapidly changing, and ambiguous future.

- For students and teachers to be prepared for that future, they need to become self-evolving learners with a growing individual and collective comfort and capacity for change.
- Our schools must rapidly realign our systems and resources in support of that overarching goal. Failure to do so will lead to institutional irrelevancy.
- Innovation is the process of that realignment through creation and implementation of new ideas that bring value to your school community.

The obstacles are significant, but for every obstacle there is already at least the start of a solution. We just need to reach out, and add those solutions to the ever-evolving mosaic that is great education.

Hitting the Road

When I left my driveway before dawn on September 9, 2012, I did not have many solid expectations for the trip and certainly no pre-ordained ideas to validate. I was overwhelmed by the number of people who agreed to meet with me and who were eager to share their ideas, successes, and failures. A few I knew as colleagues from my fifteen years working in education; the vast majority were strangers, passionate about their life mission to prepare young people for their own futures. For many of them, I was just a guy in a Prius with questions to ask. This book is really their story, sifted through the filter of the guy who got to ask the questions, listen, record, and then get back in the car for a long drive to the next town or city. Many of those I met on the road said they were jealous of my time to explore, question, synthesize, and reflect. They have every right to be jealous; this trip was an extraordinary privilege. But what does it say about our education system when the best educators, knowing full well that learning thrives only with those nutrients—deep thinking, exploration, synthesis, and reflection—can't find the time for them?

Highway motels are not bad places. They all look the same and run together with the trappings of the road, plastic key cards to room

numbers I almost forgot, cereal and yogurt in the morning if the buffet is free, a granola bar in my room if it is not. Fast food is just calories you consume when you have somewhere better to be. Gas is gas. Nothing can replace an early Sunday morning drive down from the cool pines and green, late summer pastures of Richland, Utah to red, yawning sandstone canyon lands, Van Morrison on the sound system; or a stack of thick pancakes drowning in maple syrup on the first day of the Massachusetts winter; or a rolling patch of North Carolina Appalachia in all of its fall splendor, leaves blowing across the two-lane in a final bow before the trees are bare.

Ten thousand miles, eighty-nine days, one major car repair, and long drives in the slow lane are a small price to pay for the chance to spend hundreds of hours learning with people who know and care about what learning really means.