

Table of Contents

About the Authors	ix
Foreword	xi
Introduction	1
The Relevance Gap	2
Arguments for Why Schools Need to Be Different	3
Four Big Shifts and Ten Building Blocks	4
Our Message	6
Chapter 1: The Information Literacy Argument	7
New Ways of Communicating and Accessing Information	8
Opportunities for Collaboration	8
Chapter 2: The Economic Argument	11
Disappearing Manufacturing Jobs in Developed Countries	11
Automation's Influence on High- and Low-Skill Jobs	12
Chapter 3: The Learning Argument	15
Evolution of Instructional Roles	15
Technology Use	17

Chapter 4: The Boredom Argument	21
Influence of Teaching Materials and Assignments.....	21
Influence of Cognitive Demand on Engagement	22
Chapter 5: The Innovation Argument	27
Key Skills for Innovation	28
Environments That Foster Innovation	30
Teachers' Lack of Choice and Flexibility	32
Chapter 6: The Equity Argument	35
Demographic Discrepancies in Academic Achievement and Technology Usage	35
Discrepancies in Ways Students Utilize Technology in School	37
Chapter 7: The Alternative	41
Iowa BIG, Cedar Rapids, Iowa	42
New Village Girls Academy, Los Angeles, California	43
New Technology High School, Sioux Falls, South Dakota	44
Ao Tawhiti Unlimited Discovery, Christchurch, New Zealand.....	46
Surrey Academy of Innovative Learning, Surrey, British Columbia ...	47
Other Deeper Learning Schools	48
Epilogue	51
References and Resources	55

Introduction

Make school different.

—Seth Godin

In 1983, the U.S. National Commission on Excellence in Education issued a landmark report. The report, titled *A Nation at Risk*, includes the following statements:

Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. . . . If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. . . . We have . . . squandered the gains in student achievement made in the wake of the Sputnik challenge. . . . We have, in effect, been committing an act of unthinking, unilateral educational disarmament. (p. 5)

These alarmist statements echoed the fears of previous generations that U.S. students were unprepared for the world around them. They also revitalized the notion that U.S. students were woefully inadequate compared to their international peers, a tale that has been told for decade after decade regardless of the United States' economic progress or the happiness and well-being of its citizens.

In the decades since *A Nation at Risk*, reports of the United States' imminent educational demise have continued. Business RoundTable (2005) postulates that “the United States is in a fierce contest with other nations . . . but other countries are demonstrating a greater commitment to building their brainpower” (p. 1). Similarly, the New Commission on the Skills of the American Workforce (2006) states: “Whereas for most of the 20th century the United States could take pride in having the best-educated workforce in the world, that is no longer true. Over the past 30 years, one country after another has surpassed us” (p. 4). And the highly respected National Academy of Science (2007) says that “without a renewed effort to bolster the foundations of our competitiveness, we can expect to lose our privileged position. For the first time in generations, the nation’s children could face poorer prospects than their parents and grandparents did” (p. 13).

The United States (as well as Canada) is not alone in this alarmism over assessment results. Just as sports enthusiasts look over league tables and box scores every morning, so too do many national governments pore over the minute details and rankings of their own tests and the Programme for International Student Assessment (PISA). Fearmongering and hand-wringing about education have become international pastimes.

That fear has narrowed and impoverished our views of learning and teaching. We ratchet up curriculum standards and devise cut scores based on political considerations rather than educational outcomes (for an example, see Bracey, 2009). We come up with standardized test after standardized test after standardized test for our students. It's not enough to have both end-of-year grade-level and graduation exams: we must also have numerous benchmarking tests during the year to make sure that students are on track for those final exams. We try to attach numeric data to everything we do, including not just academic performance but also social and emotional growth. We try to tie teacher evaluations to these student assessment results, which leads to such farces as physical education teachers facing sanctions because of mathematics scores for students they don't even teach.

The Relevance Gap

As nations perceive their students are falling behind international peers and make specious links to national economic well-being, they focus on narrow academic achievement gaps rather than on empowering students broadly for life success. But, as David N. Perkins (2014) notes:

The achievement gap asks, "Are students achieving X?" whereas the relevance gap asks, "Is X going to matter to the lives learners are likely to live?" If X is good mastery of reading and writing, both questions earn a big yes! Skilled, fluent, and engaged reading and writing mark both a challenging gap and a high-payoff attainment. That knowledge goes somewhere! However, if X is quadratic equations, the answers don't match. Mastering quadratic equations is challenging, but these equations are not so lifeworthy. Now fill in X with any of the thousands of topics that make up the typical content curriculum. Very often, these topics present significant challenges of achievement but with little return on investment in learners' lives. Here's the problem: the achievement gap is much more concerned with mastering content than with providing lifeworthy content. . . . The achievement gap is all about doing the same thing better. . . . The relevance gap asks us to reconsider deeply what schools teach in the first place. (p. 10)

It's no wonder engagement, educator morale, teacher recruitment and retention, and parent satisfaction with schools are so low—and why little or no academic improvement seems to result (Brown, 2015). As Perkins (2014) asks, "What did you learn during your first twelve years of education that matters in your life

today?” (p. 10). For many, the answer is “not as much as schools hope.” This disconnect that exists for so many of our graduates is just one of the many reasons we believe schools need to be different.

Arguments for Why Schools Need to Be Different

In this book, we outline six key arguments for why schools need to be different. These are not the only six arguments one could make but are important ones that address our changing, increasingly connected world—and how most of our classrooms fail to change in response to it. If political and school leaders—whom we consider the major audiences for this book, along with teachers, concerned parents, and anyone with a stake in the future of education—want to adapt learning and teaching environments to the demands of the 21st century, it is imperative that they understand the real challenges that future graduates will face. To recognize where our educational policymaking conversations have gone wrong, we have to zoom out of the day-to-day realities of schools and instead look at the societal contexts in which our school systems operate. If we hope to prepare our students and graduates for the world around them, we must start by observing and understanding what that world is actually like.

Our six arguments for making schools different are based on the following observations, each of which corresponds to the first six chapters.

1. Our information landscape is becoming incredibly complex and students need the skills to navigate it effectively.
2. Automation and global hypercompetition increasingly define the economy that our graduates are entering.
3. The role of teachers as exclusive purveyors of information is obsolete.
4. The tasks we ask students to perform are often undemanding and tedious, leading to boredom and a lack of critical thinking.
5. Schools are doing too little to create a culture of educational innovation that can respond to evolving student needs.
6. The digital tools students will require for future success are too often unavailable to traditionally disadvantaged groups.

Many of the schools that are successfully tackling these problems and ensuring relevance for students are what the Hewlett Foundation (2017) calls *deeper learning schools*. In chapter 7, we examine their effectiveness and highlight the practices of a few exemplar deeper learning schools.

Four Big Shifts and Ten Building Blocks

These deeper learning schools and other innovative educational organizations are serious about addressing this book's six arguments head-on. They recognize that if we want different learning and life outcomes for students, we have to design for them. Accordingly, deeper learning schools make most (and usually all) of the following four big shifts in their approaches to schooling.

1. **Higher-level thinking:** The shift from an overwhelming emphasis on lower-level-thinking tasks, such as factual recall and procedural regurgitation, to tasks of greater cognitive complexity, such as creativity, critical thinking, problem solving, and effective communication and collaboration. In other words, this shift asks students to live more often on the upper levels of Benjamin S. Bloom's (1956) taxonomy (or Norman L. Webb's [2002] Depth of Knowledge model) than the lower ones. The shift away from lower-level thinking helps foster graduates' citizenship skills, economic and college success, and life readiness.
2. **Student agency:** The shift from classrooms that teachers overwhelmingly control to learning environments that enable greater student agency over what, how, when, where, who with, and why they learn. Student agency allows for greater personalization, individualization, and differentiation of the learning process. As a result, student disengagement diminishes because students have greater autonomy and ownership over more of their learning.
3. **Authentic work:** The shift from isolated academic work to environments that provide students opportunities to engage with and contribute to local, national, and international interdisciplinary learning communities. This shift supports students' motivation by helping them see direct connections between their learning and the world around them, and identify the content's relevance to their future lives. It more directly connects students' learning activities to the societal innovations that surround them, enabling schools' instruction and curricula to be more contemporary.
4. **Technology infusion:** The shift from local classrooms that are largely based on pens and pencils, notebook paper, ring binders, and printed textbooks to globally connected learning spaces that are deeply and richly technology driven. The new affordances of mobile computing devices and online environments allow the first three shifts mentioned here to move into high gear. Robust technology integration efforts also combat equity concerns, allow students to master current information landscapes, and increase relevance to rapid, technology-driven societal innovations.

Deeper learning schools tend to use a common set of building blocks to form the foundation of their work. These building blocks vary in form, depth, and intensity depending on the classroom or school model, but together they foster the four big shifts that define innovative schools. Not all these building blocks are present in every deeper learning school, but most deeper learning school models incorporate at least a few. In no particular order, they are:

- **Project- and inquiry-based learning environments** that emphasize greater student agency and the active application of cognitively complex thinking, communication, and collaboration skills
- **Authentic, real-world work** students derive from community projects, internships, digital simulations, and other learning experiences
- **Competency-based education and standards-based grading** that shift the focus of assessment from seat time to learning mastery
- **One-to-one computing initiatives** (and concurrent Internet bandwidth upgrades) that give students access both to digital learning devices and to the world's information, individuals, and organizations
- **Digital and online information resources**, often including open-access resources
- **Online communities of interest** that supplement and augment more traditional learning communities
- **Adaptive software and data systems** (and accompanying organizational models) that facilitate greater individualization of learning content and pace
- **Alternative credentialing mechanisms** that enable individuals to quickly reskill for and adapt to rapidly evolving workforce needs and economic demands
- **Flexible scheduling** that moves students away from fifty-minute chunks of time—and a prescribed number of hours and days in a prescribed location—and toward opportunities to learn longer, deeper, and in more places about important life skills and concepts
- **Redesigned learning spaces** that accommodate flexible, student-centered grouping and learning tasks rather than classroom spaces that the needs of instructors or janitors dictate

Although these building blocks are presented here as separate items, they usually work in coordination to create qualitatively different learning experiences for students. The combinations a deeper learning school chooses—and the depth of their implementation—form that school's unique character.

Our Message

The intent of this book is not to denigrate the efforts of the numerous sincere and dedicated educators who are trying the best they can to serve students well within traditional school systems. We're both passionate advocates for schools, educators, and students; we both have long histories in the public education system; and we've both been vocal proponents of powerful learning, student and teacher rights, and adequate school supports and funding. But we also recognize that schools need to change (and if we've done our job right, by now you do too). We can't keep doing the same things that we have always done, nor can we continue to move at the frustratingly slow pace that we've seen so far.

The intent of this book is to recognize that despite our very best efforts, much of what we're doing in schools isn't working because it isn't relevant to the needs and demands of the world around us. For the most part, the problem lies not so much with our people but with the outdated systems that many of us are struggling to abandon. When societies shifted from an agricultural model to an industrial model, we responded by changing how we educated our young people. Now that our societies are shifting from an industrial model to a global information and innovation model, we need to change our approach to education yet again.

In some respects, the concerns in this book are no different from the concerns of the authors of *A Nation at Risk* and its many heirs. We also raise questions about the education that students experience in most of our schools. But our worries lie in completely different directions than poor performance on standardized tests, and our prescriptions bear little resemblance to the technocratic "solutions" that policymakers tend to prefer. We agree that schools need to change, but that change should have to do with a school's relevance, not just with its achievement scores. Complex problems don't get fixed with simplistic approaches.

The challenges that lie before us are too great—and the opportunities ahead are too powerful—for us to sit back and pretend that the status quo is adequate. We love schools. But we must change them in order to save them. However, the paths that we advocate for in this book so far have been unrealized on a large scale. And despite our eye on the future, we recognize that concerns regarding the relevance of contemporary education are timeless. We have always known what the goal of great, relevant learning looks like. Today, although we have more barriers to overcome, we also have more ways to achieve it.