Book Review
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Redesign Education, Not Piecemeal Reforms

Most Likely to Succeed: Preparing our Kids for the Innovation Era
By Tony Wagner and Ted Dintersmith
Scribner, 288 pages; 2015; $27 hardcover

Reviewed by Charles M. Reigeluth

Over the past few decades there has been growing recognition that piecemeal reforms have universally failed, and will continue to fail, to provide the kind of improvement in student learning that is so desperately needed by our students, communities, and country – and that only fundamental transformation (paradigm change) can meet that need. Wagner and Dintersmith note that, “As our nation headed into the twenty-first century, we faced an existential choice. We could completely redesign our education system … or we could push our existing system harder for incremental improvements …” (p. 26). This book addresses why a complete redesign (paradigm change) is needed, how the purpose of education has changed, the likely economic and civic consequences of failing to redesign, the main problems with the current design on both the K-12 and higher education levels, and ways that teaching and assessment need to change; and the authors conclude with a new vision for education.

Book Contents

Chapter 1, Our Education DNA, presents “a whirlwind tour of the entire history of education” that includes the apprenticeship model that predominated in the hunting-and-gathering and agrarian ages and the “assembly-line model of education” in the industrial age and concludes with our current educational needs and how inadequate the assembly-line model is at meeting those needs. Finally, it describes how education credentials are America’s caste system.

Chapter 2, The Purpose of Education, discusses the mismatch between the goals our schools espouse (such as cognitive and social skills, citizenship, character, self-discovery, career readiness) and the goals evident by what schools do (content coverage and memorization). Today’s goals, based on the work of the Committee of Ten in 1893, were appropriate during the Industrial Age but are actually damaging in today’s Information Age, or “Innovation Era” as the authors call it. They maintain that schools must tap into the passions of students, help them develop critical skills, and inspire them.

Chapter 3, What’s at Stake?, opens by debunking two prevailing views of what’s at stake: that the U.S. is “falling behind other countries” and that “our education crisis resides largely in our low-performing inner-city and rural schools” (p. 53). The authors go on to describe the real stakes: economic ones and ones for civil society. The large companies of the Industrial Age had large numbers of employees and large bureaucracies. In contrast, the large companies of the Information Age, like Google, Facebook, and Twitter, “will
employ an order of magnitude fewer employees. Almost all of them will be creative problem solvers.” (p. 63). We are not preparing our students for this economic reality, placing “tens of millions of young lives on the line [and] our social fabric at risk ... as the divide between the rich and the rest will broaden.” (p. 8). Growing fragmentation of our sources of news is polarizing our electorate and threatening our democracy. The only way to replace ideological fervor with pragmatic alignment of interests and actions is through developing citizens’ 21st century skills like critical analysis, communication, collaboration, and creative problem solving.

Chapter 4, The Formative Years: K-12, presents convincing evidence that high schools in the U.S. are obsessively focused on college preparation and state tests, which prevent us from teaching what our students really need and want at both the secondary and elementary levels. The authors review each of the kinds of content that are currently taught and analyze how little value they contribute to the needs of students, their communities, and society. Finally, they present a vision of what should be taught and how. The how includes interdisciplinary, problem-based learning centered around complex problems that are of interest to each individual student with authentic performance-based assessment. The what focuses on such competencies as learning how to learn, communicating effectively, collaborating productively, creative problem-solving, managing failure, effecting change in organizations and society, making sound decisions, achieving goals, building perseverance and determination, and leveraging one’s passions and talents to make the world better. These goals are very similar to the impressive new paradigm of curriculum offered by Marc Prensky (2014) in this magazine.

Chapter 5, The Gold Ring: The College Degree, catalogs the ways that higher education is failing its students. First, the authors cite evidence that “the majority of college students learn little or nothing on the important dimensions of critical thinking and analysis, complex reasoning, and writing” (p. 155). Similarly, “recent research suggests that students who graduate from the most highly selective schools do not have the competitive advantage that is widely assumed” (p. 176). And all this while costs are increasing dramatically, exacerbating the income inequality problem. Compared with colleges a generation ago, “Today, our higher-education system is becoming a cause of income inequality in our country, instead of a solution ... while churning out graduates disengaged from their responsibilities as citizens” (p. 171). The authors also cite the high emotional costs of college that stretch from middle school (with stress about getting into a good college) through adulthood (with trying to pay for it). They conclude that, as alternatives arise through the Internet and other venues, “15 years from now half of US universities may be in bankruptcy” (p. 149).

Chapter 6, Teaching, Learning, and Assessing, starts by presenting evidence of the ineffectiveness of lecture and the benefits of active learning (such as hands-on projects, student-directed learning, and thought-provoking questions for conceptual understanding). Then the authors discuss ways that testing is typically antithetical to meaningful learning and how it needs to change. First, it should be tied to what is important to learn, not to memorizing information (advocating depth over breadth), and it should not be time-pressured. Second, norm-referenced tests (based on the bell curve) should be replaced by criterion-referenced ones. Third, multiple-choice tests should be replaced by performance tests.

The theme of the final chapter, A New Vision for Education, is that it is futile to try to
make “incremental improvements to an education model designed in 1893” to meet the educational needs of the Industrial Age (p. 222), and that the only effective course is to completely redesign our educational systems (paradigm change). The authors argue that “the first challenge is to clarify the outcomes that matter most for a high school graduate” (p. 223). They offer a “tripod” of knowledge composed of will, skill, and content. Second, they recommend “an entirely different assessment model” that is criterion-referenced (like scouting merit badges, complete with portfolios), focused more on critical skills (the four Cs: critical thinking, collaboration, communication, and creative problem-solving) than on subject content, and performance-based rather than multiple-choice. “We can focus either on what’s easy to measure or on what’s important to learn. We can’t do both well.” (p. 226).

Third, the authors describe changes needed for teacher preparation (more learning by doing and year-long apprenticeships) and teacher management (trust through professionalism, and reward based on demonstrated improvement in student mastery). Fourth, the authors document the need for massive investment in educational R&D to create laboratory schools to develop better approaches to teaching, assessment, teacher preparation, and accountability, whereas most of what the U.S. Department of Education is currently funding is like rearranging the deck chairs on the Titanic as it careens toward the iceberg. Furthermore, educational R&D needs to be undertaken with “a clear path to production” (putting what is learned into use), as do businesses and the Department of Defense.

Fifth, the authors maintain that innovation will completely restructure higher education, and they describe a number of radically different models for higher education. Sixth, they describe promising new schools in the K-12 arena: High Tech High, Expeditionary Learning, Deeper Learning Network, EdLeader21, and many others. Seventh, a highly useful section of this chapter addresses “What your school community can do.” The recommendations include: build urgency for change, form a shared vision, assess the current state of your school, identify steps to move forward, and empower teachers and students to pursue the shared vision. They rightly argue that the transformation can’t be top down. These recommendations are highly consistent with my findings from 10 years of facilitating a paradigm change effort in the Indianapolis Metropolitan School District of Decatur Township (Reigeluth & Karnopp, 2013).

The thesis of this book is aptly summed up by this statement: “We have an education system that would make perfect sense in the 1970s U.S.S.R. but is completely out of step with America’s core values and strengths. ... If we ran our economy the way we run our education system, our GDP would be lower than Haiti’s.” (p. 264).

Critique

I found little to disagree with in this book. The claims are universally well backed up with facts and actual cases. And I was pleased with the great overlap with what I and Jennifer Karnopp talk about in Reinventing Schools: It’s Time to Break the Mold (see www.reinventingschools.net). Furthermore, the writing is clear and engaging. It incorporates powerful analogies, examples, and case studies, such as the analogy of teaching bike riding. The authors also provide information about many useful resources for readers interested in acting on what they have read.

In my view, what is most needed to improve education today is a broad
understanding that only paradigm change can meet our new educational needs in the Information Age – that piecemeal reforms on an obsolete system have been tried for over 50 years now and have utterly failed. Christensen, Horn and Johnson (2008) helped to make this point with their distinction between “sustaining” and “disruptive” change, as did Drucker with his distinction between “continuous” and “discontinuous” change. Yet it seems that few educators, researchers, or policymakers are even aware of the distinction, let alone how essential it is to the continued success of this “grand experiment” called democracy that our founding fathers initiated almost two and a half centuries ago.

This book is a must-read for all educators and policymakers if you truly care about our students, our communities, and our country.

The Authors
Tony Wagner is an expert in residence at Harvard University’s Innovation Lab. Formerly he was a high school teacher, K-8 principal, university professor, and founding executive director of Educators for Social Responsibility. Ted Dintersmith is a partner emeritus with Charles River Ventures, a top-tier early-stage venture capital firm. He originated, funded, and executive produced the educational documentary, Most Likely to Succeed.

References