

INTRODUCTION

SCHOOL TO WORK AND CAREER PATHWAYS

AMERICA HAS LOST ITS EDGE. Once the world's dominant economy, we have seen overseas competitors displace domestic producers at home and in the global export market. Traditional manufacturers have been hit hardest. As factories in China and other countries have paid much lower wages and automation has taken over more routine—and not-so-routine—work, American workers who relied on strength, endurance, and manual dexterity have fallen behind. In the face of these changes, schools have proved stubbornly resistant to the kind of reinvention that could enable them to educate more students to the level needed for them to perform productive work in the transforming economy.

Well-informed Americans are familiar with the essentials of this thumb-nail account, but only the older ones experience a sense of déjà vu when they hear or read some version of it. Although the shift began even earlier, observers began to recognize that the fortunes of many American companies and workers were worsening in the 1980s and 1990s. Despite the fact that many different forces converged to create these economic changes, a consensus emerged at that time that the education system's failure was to blame. Endemic dissatisfaction with the country's schools escalated into a national school reform movement following the publication of *A Nation at Risk* in 1983, which attributed fading economic dominance to “unilateral

educational disarmament,” and the impetus to reform has endured through varying preferences for how to prosecute it.¹

Nineteenth-century British visitors to the United States identified education as a secret to the country’s growing economic might. Factory workers could read! Being able to read instructions and communicate orally and in writing with each other and with their supervisors, these workers were more productive than mere “hands.” Today educators face the challenge of preparing students for a world in which nearly everyone has to engage with advanced technology at work and in their personal lives, and service—from retail sales to neurosurgery—has surpassed manufacturing as the largest engine of prosperity. The “twenty-first-century competencies” required by this new world include learning traditional academic subjects at the post-secondary level and acquiring such personal and social competencies as communication, collaboration, and problem solving.² Yet general consensus on the need to improve education has not translated into either widespread progress or agreement on how to proceed toward that goal.

The predominant thread of education reform over the past forty years has been commitment to raising academic standards. *A Nation at Risk* stated the most influential rationale for this commitment. It was embodied in the George W. Bush administration’s No Child Left Behind Act in 2001 (NCLB), and continues today in policies setting “higher standards” that hold educators accountable for student achievement as measured by scores on standardized tests of academic learning. Equity has been a second thread, at least since *Brown v. Board of Education* in 1954 and subsequent desegregation actions. Advocates for raising standards have at times either explicitly or implicitly downplayed equity. The post-*Sputnik* panic about science and math learning added resources to the identification and education of the best and brightest. *A Nation at Risk* wove these two threads together, as did George W. Bush, who memorably decried “the soft bigotry of low expectations.” NCLB held schools accountable for improving test scores of different groups of students; showing gains on average was no longer sufficient.

Setting an ambitious goal is one thing. Finding the means to achieve it is another. Most educators, and the policy makers and voters guiding them, adopted a principle best expressed by Robert Hutchins, long-time president of the University of Chicago (1929–1945): “The best education for the best

is the best education for all.” A bachelor’s degree is the best education and if all students are to be prepared for college, then all high school students should take the same courses. The commission that issued *A Nation at Risk* expressed alarm that 42 percent of secondary students were enrolled in the “general track,” which was neither college preparatory nor vocational, essentially preparing students to graduate but not for any other identifiable purpose. As states have ratcheted up graduation requirements, school districts have all but eliminated the general track. Enrollment in vocational education has declined too—students enrolled in more and more demanding academic courses have little time left to take those courses. In response, vocational educators have rebranded their field as *career and technical education* (CTE) and embraced the “college for all” mantra, incorporating into the definition of college two-year community and technical colleges and shorter career-related certification programs. They offer students course sequences that simultaneously prepare them for immediate employment and for postsecondary education followed by employment.

Students in hybrid programs combining career and academic preparation not only have graduated with more options for their next steps, but also have demonstrated that having a career goal in mind can motivate and provide additional contexts for academic learning. An apprentice I talked with in northern Germany explained to me that he had never liked school and wasn’t good at it. So, as soon as he made it through secondary school, he became an apprentice plumber. He had just completed his training and achieved the highest score in his state on the written portion of his qualifying examination, and was thinking about enrolling in a technical university to become an engineer. Calculating the volume, length, and proper drainage angle for pipes made much more sense to him than simply solving textbook problems, and he discovered that he was good at that kind of math.

Two additional education reforms preceded and contributed to the new CTE. One was known as Tech Prep, or 2+2, a version of vocational education designed to prepare high school students for two years of postsecondary technical education as well as a career.³ The other was career academies—small schools or schools within schools organized around a career theme. Career academies are not strictly about CTE. They use their career focus in academic as well as technical courses to prepare graduates for two or four

years of college. As small schools designed to break down the anonymity of large comprehensive high schools, career academies incorporate yet another thread of education reform by promoting closer relationships among students and between students and teachers. The career theme gives students a motivation to choose one academy over another and provides a shared sense of purpose. Career pathways, which we discuss next, can be manifested in career academies but may take other forms as well. They retain the dual focus on college and career, with the career direction providing a context for learning academic as well as technical knowledge.

CAREER PATHWAYS

Over the past decade or more, many schools, school districts, and states have adopted the idea of career pathways (CP) as an organizing principle for student learning, especially but not exclusively in high school. Like other reforms, CP is more than one thing. It looks different in different locations and it braids together threads of other reforms.

Current CP initiatives share the goal of making high school graduates college *and* career ready. Students are expected to master academic content sufficient to enable their success in some form of postsecondary education. Students who need it receive extra support. All students receive career as well as college counseling. Academic learning is not simply a prelude to more academic learning; it is related to careers to give academic competence a clear purpose and ground it in real-world activities. To repurpose a phrase of E. F. Schumacher, career pathways make “a viable future visible in the present” for young people. The definition of college includes not only four-year institutions granting bachelor’s degrees, but also two-year community and technical colleges that grant associate’s degrees, and additional postsecondary institutions that confer occupational credentials. Students gain technical competence associated with their chosen career area in classes, shops or labs, and workplaces. To design learning programs, educators partner with employers, gaining their insight into what young people need to know and be able to do if they are to succeed as workers, and gaining access to work-based learning (WBL) in the workplaces of allied employers.⁴ The motivation for CP includes a critique of conventional secondary schooling

as ineffective for too many young people—demonstrated not only by high dropout rates but also by many graduates’ inadequate preparation for work and higher education—and the rising expectations of employers in a global economy increasingly dominated by technology.

The concerns driving the CP movement and these elements of CP are similar to those associated with the school-to-work (STW) movement of the 1980s and 1990s. This similarity is more than coincidental; some CP initiatives can be traced to the STW movement, and others have an even older lineage. Examining the history of STW sheds some light on the origins of CP and identifies lessons to be learned if the new movement is to persist and grow rather than fading into the background like its predecessor.

Just as Americans fret today about the economic ascendancy of China, they worried three decades ago about Japan and Germany, most visibly their rising share of the auto industry. The most prominent manifestation of that concern in education was the report *America’s Choice: High Skills or Low Wages*.⁵ The technology revolution that is changing the nature of work, leaving less educated people either unemployable or limited to minimum-wage jobs, was visible then. Marc Tucker and the National Center for Education and the Economy, which issued the report, argued that in trying to compete with rising economies the United States was descending toward a “low-wage equilibrium” and that we should reverse course and instead increase the share of the working population with skills equipping them to earn high wages. The companion claim, forcefully conveyed in an influential report entitled *The Forgotten Half*, was that the half or more of young people who did not graduate from a four-year college were neglected by policy and the education system, to the detriment of those people and the nation as a whole.⁶

The warnings issued then have since been validated. Employers complain that they can’t find qualified workers, one of the motivations cited for the *Nation at Risk* report. The concern explicated in *The Forgotten Half* has persisted as well, though it has not been as prominent: young people are finding it increasingly difficult to make the transition from school to work, from adolescence to adulthood. The current expression of this phenomenon is that we have created a new stage of human development: *emerging adulthood*, a prolonged period when young people, basically in their twenties,

can no longer be considered adolescents but are not adults and do not consider themselves to be.⁷ If emerging adulthood has gained greater attention than the forgotten half, it is because the exemplar of the emerging adult is a college graduate, now seemingly in need of direction just as much as the previous generation's "non-college youth."⁸ In addition to these familiar conditions, experts and the public generally agree that US schools fail too many students, especially those who are low-income, of color, or non-native English speakers. Although that consensus extends to the proposition that improved education is essential to renewed economic strength, it is worth noting that whereas Japan and Germany could accurately be said to have education systems that were superior to ours in some respects, China has achieved its global economic dominance with a workforce educated in schools known more for their emphasis on memorization and severe sorting than for teaching twenty-first-century competencies to the masses.⁹

Learning from Work

Similar concerns during these two time periods yielded similar ideas for change in education. The fundamental aim, which also drove the standards movement, is for all students to achieve academically at levels formerly limited to the elite. However, both movements diverge from the policy of simply setting higher academic standards, claiming instead that all students will achieve more when school learning is made more relevant by being tied more closely to real employment prospects; therefore, schools and communities must offer students work-based and work-like learning opportunities—internships, apprenticeships, field trips, school-based enterprises, simulations, and the like. The new CTE builds on the well-established use of such strategies in vocational education. Project-based learning, though not limited to explicitly career-related topics, is another variation on the broader category of active learning.

Many of the actors who advanced the STW movement hoped to develop youth apprenticeships—that is, apprenticeships for high school students—in contrast to conventional American apprenticeships, which are available in a very limited set of occupations, enroll predominantly adults in their twenties and thirties, and have few or no connections to formal schooling. In most of the world, apprentices *are* youth; the modifier is unneeded. Indeed, the

traditional use of age twenty-one as the marker of adulthood followed from the importance of the number seven in medieval European numerology: infancy lasted from birth to age seven, childhood from seven to fourteen, and apprenticeship from fourteen to twenty-one. The unusual dominance of older adults in US and Canadian apprenticeship appears to have resulted from preferences bestowed on veterans following World War II.¹⁰

The influence of European apprenticeship, especially in Germany and Switzerland, is visible in some of the key documents of the movement.¹¹ Bill Clinton, as a candidate and later as president, frequently spoke about youth apprenticeship, having promoted it as governor of Arkansas. Hillary Clinton had served as an active member of the Grant Foundation Commission on Youth and America's Future, which issued the *Forgotten Half* report.¹²

Shifting from Movement to Legislation

Passage of the School-to-Work Opportunities Act of 1994 (STWOA) was the culmination of the STW movement.¹³ The largest portion of STWOA's \$1.85 billion funding went to assist "states in planning and developing comprehensive School-to-Work Opportunities systems" (Title II, Sec. 201).¹⁴ Initiatives supported by STWOA funds were required to have three components: school-based learning, work-based learning, and connecting activities linking the two. The legislation (HR2884, (Sec. 2 (8))) explicitly cites apprenticeship as the model for WBL and sets out some of its purposes: "the work-based learning approach, which is modeled after the time-honored apprenticeship concept, integrates theoretical instruction with structured on-the-job training, and this approach, combined with school-based learning, can be very effective in engaging student interest, enhancing skill acquisition, developing positive work attitudes, and preparing youths for high-skill, high-wage careers."

STWOA can also be traced to some prior legislative initiatives. The US Department of Labor (DOL) implemented a School-to-Work Transition/Youth Apprenticeship Demonstration in 1990 during the George H. W. Bush administration. A decade earlier during the Carter administration, Vice President Walter Mondale led a task force on youth employment that generated the Youth Act of 1980, which called for collaboration between DOL and the newly created Education Department (before 1979 part of

the Department of Health, Education, and Welfare). In three titles it addressed out-of-school youth, school reform, and the transition to employment; it funded community-based organizations and supporting activities at the national, state, and local levels. The president's budget allocated \$3 billion for this initiative. The bill passed the House but died in the Senate.¹⁵ When Bob Schwartz, who had advocated for the bill as an official in the Education Department (ED), returned to Boston with some of his colleagues, they created the Boston Compact, which worked with the private sector to incorporate the core ideas of the Youth Act and became another source of inspiration for STW. A Boston youth apprenticeship program, ProTech, was one of the demonstration programs whose apprentices were featured at the Rose Garden signing ceremony for STWOA.¹⁶

STWOA failed to sustain a vital STW movement. The CP movement represents a resurgence of many of the same ideas, but it rose to prominence after nearly two decades of neglect. If STW had succeeded, CP would be unnecessary. One reason why the STW movement faded was that the legislation was designed to last only a short time. Recognizing that Congress was unready to make an open-ended commitment to a large new federal program, advocates fastened on President Clinton's and Vice President Gore's ideas about "reinventing government," describing federal funding as "venture capital" that would leverage larger and continuing investments by states, school districts, employers, and other stakeholders who would maintain and enlarge what STWOA started. In that spirit, the legislation contained a sunset clause. JD Hoye related that when she met with congressional representatives as director of the School-to-Work Opportunities Office, which was created to administer STWOA, they always began by admonishing her, "You're not going to ask to extend it." Although advocates outside the government hoped for an extension, George W. Bush's victory over Al Gore in 2000 quashed any remaining possibility of renewing the legislation. Not only was the new administration averse to anything Clinton, but strong opposition emerged from the right, led by Phyllis Schlafly and her Eagle Forum. Lynne Cheney, wife of future Vice President Dick Cheney, wrote an op-ed column in the *New York Times* (February 3, 1998) attacking STWOA, claiming it would give the federal government control over children's futures. One illustration of how the movement's aims became

distorted was a mother's statement: "My daughter isn't going to work. She's going to college." Right-wing criticism was more damaging than it might otherwise have been because the STW movement had previously been notably bipartisan. Some prominent Republican-leaning business leaders actively advocated for STWOA, and it passed by a two-to-one majority in the Senate and by more than four to one in the House.

Partly because of the absence of any powerful opposition before this time, STW advocates were unprepared to make the case for renewing the legislation and lacked plans for maintaining the movement without federal support. This was especially ironic because the movement emerged without any anticipation of such support. STWOA, in effect, swallowed the STW movement, leading most advocates to channel their energy into programs that did not last and distracting them from imagining a future without federal funding.

The demise of STWOA also resulted in part from the growing strength of the college-for-all ideal. While youth apprenticeship had been a frequent theme of Bill Clinton's first campaign, STW was absent from his second. Bob Lerman pointed out that, in his 1998 State of the Union address, Clinton listed ten priorities for education and STW was not on the list. According to Hilary Pennington, one of the bill's drafters, STWOA was originally conceived as part of the Clinton administration's education reform policy, but the two became independent and even competitive. Patricia McNeil, who was assistant secretary of education for vocational and adult education, saw support for STWOA in both the Education and Labor Departments fade following the resignations of Robert Reich as secretary of labor in 1997, of two Department of Labor (DOL) undersecretaries, and of JD Hoye as director of the STWO Office. The George W. Bush administration allowed STWOA to sunset and christened the renewal of the Elementary and Secondary Education legislation "No Child Left Behind," focusing K-12 education sharply on academic achievement as measured by standardized tests and on preparing all children for college. Adopting this change in goals, envisioning college as the destination for all students, and ameliorating the practice of sorting students into three tracks, many educators and policy makers argued that all students should take the same courses and assumed that those courses would be taught in the way they had been before.

Navigating Continuity and Change

As policy makers and much of the public shifted their attention from preparation for work to preparation for college, the issues addressed by STW remained; they are cited again by CP advocates in remarkably similar terms. Employers continue to complain about unprepared applicants and no one is satisfied with schools' effectiveness. Moreover, despite a fallow period between the two movements, there are strong continuities between STW and CP. Key people, organizations, ideas, and activities from STW are also contributors to CP. The authors of the *Pathways to Prosperity* report, which is the most influential statement on CP, cast their work as an update of the 1988 *Forgotten Half* report.¹⁷ Carrying the cachet of Harvard, the *Pathways* report reprised the previous one in both stimulating new activity and highlighting promising initiatives already underway. Some of these initiatives, such as youth apprenticeship, have been in place since the 1990s. Report coauthor Bob Schwartz supported many early STW projects as the education program director for the Pew Charitable Trusts. More than any other organization, Jobs for the Future (JFF) provided leadership in the STW movement. Its cofounder and CEO, Hilary Pennington, worked with Bob Schwartz to shape the STWOA, she on behalf of DOL and he for ED. JFF continues to provide leadership for CP. Bob Schwartz coleads JFF's Career Pathways Network with his wife, Nancy Hoffman.

While the CP movement appears in many ways to be a renaissance of STW, things are not the same twenty-five years on. One change is that the movement for education reform driven by higher standards and enforced by standardized tests has now followed the familiar enthusiasm-to-disappointment cycle. We have tried that approach and, although it cannot be written off as an abject failure, it did not solve our education problems. High school graduation rates and college enrollment have increased—both highly gratifying trends—but remain too low from the perspectives of both equity and international competitiveness.¹⁸ Changes in the workforce that were forecast thirty years ago have arrived. Baby boomers are retiring, creating job openings that cannot be filled by people with no more than a high school diploma; jobs that can be automated or offshored have been. Computers are in our purses and pockets and everywhere else they can be useful.

White men now account for less than half of the workforce, outnumbered by the combination of women, men of color, and immigrant men. A college diploma has proved to be the best defense against declining real earnings, but a chasm has opened between the incomes of those with and without a diploma, threatening living standards as well as social and political stability. Perhaps the most significant difference is that the growth of income inequality, which was visible in the 1990s but not widely recognized, has now been documented in excruciating detail, countering the belief that the United States is uniquely a land of equal opportunity, and inequality has become a topic of political debate.¹⁹

Recognizing that going to college and graduating are two different things, James Rosenbaum and his colleagues have called students who leave college without a degree or certificate “the new forgotten half.”²⁰ They point out that even in 1988 when *The Forgotten Half* was released, college enrollment rates were climbing, especially when two-year colleges are included. Now, they claim, college for all is nearly a reality, with 86 percent of high school graduates enrolling in college, including 36 percent in two-year colleges. The problem, as they see it, is that 46 percent of high school graduates who enroll in two-year colleges have not earned a degree or credential eight years later. The comparable figure for four-year college enrollees is better, but only by half: 22 percent. Young people with “some college” gain few or no advantages in employment or earnings. In a time of rising college costs and disappearing state support, many students struggle to pay back loans. Without the aid of the higher earnings they anticipated as a reward for finishing college, young people in the new forgotten half face bleak economic prospects.

The public is now more aware than before of the continuing changes in workplaces and inadequacies of our education system. Meanwhile, rising student debt and increased under/unemployment of college graduates have weakened public faith in college for all. College-ready is not the same as career-ready. Enough people now recognize the challenges; the next step is to make effective improvements at a large enough scale to meet them. Sadly, this must be accomplished without the kind of bipartisan support given to STWOA, which is literally from another era. Prospects for a new federal initiative are bleak.

Securing Federal Backing for Career Pathways

The most promising CP initiatives are being mounted by states. That does not mean, however, that the federal government does nothing or can do nothing. FY 2016 appropriations to ED for state CTE grants amounted to \$1.12 billion. The Perkins reauthorization bill, passed in July 2018, adds to provisions from the 1990, 1998, and 2006 reauthorizations that promote CP and concepts from STW, including “programs of study” that sharpen the focus of CTE students, enhance academic content and standards, and improve connections between secondary and postsecondary education.²¹ Funding for DOL youth programs included \$873.4 million from the Workforce Innovation and Opportunity Act of 2014, \$84,534,000 for Youth-Build, and \$100 million for apprenticeship grants for both adult and youth programs.²² <http://www.nationalskillscoalition.org/resources/publications/file/Fiscal-Year-2017-Budget-Analysis.pdf>) The largest program, Job Corps, received \$1.7 billion (bit.ly/DOLBdgt). DOL also initiated Youth Career Connect in 2013, using \$100 million collected from the H-1B visa program to support CP activities, without using the term *career pathways* (www.doleta.gov/ycc/).

The Workforce Innovation and Opportunities Act (WIOA) is a major contributor to CP, providing leadership and technical assistance to the movement as well as funding.²³ Because DOL is responsible for adults and for employment training outside of schools, WIOA broadens the scope of CP beyond secondary and postsecondary students, who are the focus of this book. Responding to a provision in the Perkins Act of 2006 requiring states to create career pathways, twenty-seven states have joined national or regional networks that enable them to collaborate and learn from one another; eleven are members of two or more networks.²⁴

DOL and ED are not alone in supporting CP. The Department of Health and Human Services (HHS) is another key player. In April 2016, thirteen federal agencies, plus the Office of Management and Budget and the White House National Economic Council, signed a joint letter endorsing CP (bit.ly/2McoeYy). The letter includes information and links to various programs and the following excerpt from the WIOA legislation (Section 3(7)) defining a career pathway as:

a combination of rigorous and high-quality education, training, and other services that—

(A) aligns with the skill needs of industries in the economy of the State or regional economy involved;

(B) prepares an individual to be successful in any of a full range of secondary or postsecondary education options, including registered apprenticeships;

(C) includes counseling to support an individual in achieving the individual's education and career goals;

(D) includes, as appropriate, education offered concurrently with and in the same context as workforce preparation activities and training for a specific occupation or occupational cluster;

(E) organizes education, training, and other services to meet the particular needs of an individual in a manner that accelerates the educational and career advancement of the individual to the extent practicable;

(F) enables an individual to attain a secondary school diploma or its recognized equivalent, and at least one recognized postsecondary credential; and

(G) helps an individual enter or advance within a specific occupation or occupational cluster.

If these agencies' commitments hold, and if they result in effective action on the ground, they will broaden support for CP beyond ED and DOL and diversify sources for funding.

OVERVIEW

Recognizing that history never actually repeats itself, we can expect that because STW and CP have similar motivations and prescriptions we can look to the former for lessons to guide the latter. Instances of progress in CP are encouraging, but unresolved issues and persistent tensions remain. If we tried something like this before and failed to achieve large-scale lasting change, how can we do a better job this time? We can extract insights from the limitations of STW but also from its successes, including its enduring

influence on the current CP movement. The remainder of this book is devoted to lessons and recommendations for the CP movement grounded in what happened and what did not happen in STW and sometimes illustrated by current CP programs. I have had to be selective, ignoring some lessons for lack of space, and others, surely, because I failed to observe, appreciate, or understand them.

Chapter 1, “School Learning That Matters,” explores the implications for secondary schools of taking seriously the college and career readiness goal. STW was strong on what should be added to schools, notably work-based learning, but had less to say about how what happens in schools should be altered. CP has more exemplars of improved schools to draw upon than STW did. Two of those exemplars, High Tech High and the Long Beach Unified School District, are described to illustrate the magnitude of the changes required and to demonstrate that effective schools are not identical.

Chapter 2, “Career Pathways Through Postsecondary Education,” is about extending career pathways from K–12 to postsecondary institutions and linking the two levels of education more tightly. While Americans have steadily criticized their K–12 schools for failing students, they have mostly been proud of postsecondary education, urging greater access and lower cost, but not until recently calling attention to alarming noncompletion rates. CP continues the focus on K–12, addressing college readiness but making few demands for change in postsecondary institutions. Dual enrollment—various arrangements that enable high school students to earn college credit—has been the most significant change in the links between the levels in recent decades, meshing nicely with the aspiration to create career pathways that take students all the way to college graduation.

Work-based learning, the topic of chapter 3, “Learning from Work,” is the most novel form of pedagogy espoused by advocates of both STW and CP. Widespread agreement on the power of WBL has not yet translated into substantial new opportunities for large numbers of youth. The most serious challenge educators face is creating large numbers of high-quality WBL experiences that are enduring, intensive, and carefully connected to school learning. As in programs funded by STWOA, most current WBL is short-term and exploratory. High-quality internships and apprenticeships remain rare.

Apprenticeship was a critical source of inspiration for STW and for some CP initiatives, but a robust CP system is conceivable without it. What is essential and was lacking in STWOA is that all or most students have access to a sequence of WBL experiences suitable to their age, aspirations, and previous experiences. Apprenticeship continues to be a touchstone for WBL. Even when large numbers of youth do not become apprentices, the effort to build an apprenticeship system will advance the installation of needed infrastructure to support a sequence of WBL opportunities leading up to internship, apprenticeship, or another capstone experience.

CP, like STW before it, requires a shift in orientation from starting programs to building systems, which is the topic of chapter 4, “Elements of a Career Pathways System.” STWOA included system language but was not designed to produce systems. Its timeline was too short and it did not devote sufficient resources to system infrastructure. As a result, when the funding ended, most of the effort did too. The Irvine Foundation’s inspired and enduring commitment to building Linked Learning stands as a shining example of CP system building, but in expanding that work at the K–12 level, the State of California repeated the error of making short-term grants and expecting lasting change. Some other states, such as South Carolina, Delaware, and Tennessee, have committed less money but made it a continuing source of support for CP systems or components.

Chapter 5, “Making Change Happen,” continues the topic of system building, addressing the process of change by drawing on thinking and research using related terms such as *innovation*, *diffusion*, *implementation*, and *field building* that have advanced over the past few decades. Most of this new work has been about programs rather than systems, which must be created in pieces but ultimately function as coherent wholes. To succeed we need to execute a ju-jitsu move, transforming the disadvantage of relying on multiple sources of funding and proceeding more or less independently in multiple locations into a strength.

The concluding chapter, “Overcoming Obstacles,” reprises the lessons extracted from STW and some CP initiatives by identifying barriers to building a CP system and recommending strategies to surmount those barriers. We are fortunate to be able to examine successful, or at least promising, strategies that change agents are working on now.

Several crosscutting themes emerge. The dominant theme of the book is that we need a CP *system*, not merely a set of programs. Much of the book is devoted to issues surrounding system building because it is the most daunting challenge, and the failure to build a system was the most serious flaw in the STW movement and legislation. The system component that is close behind in degree of difficulty is creating good WBL for all or most young people. Youth apprenticeship is the principal inspiration for WBL and sets the standard even for forms of WBL with different purposes.

Two additional cross-cutting themes are pedagogical and institutional change. CP is ultimately a different context and methodology for learning. Educators, as a result, have to devise and master effective modes of teaching, something that STW and many other education reforms failed to accomplish. Improving pedagogy entails far more than changes on the part of individual teachers. Institutional changes are needed in K–12 schools and postsecondary institutions; employers must form new organizations to collaborate among themselves and with educators; and a panoply of supporting organizations must arise, including governmental, nonprofit, and for-profit.

The final theme is equity, which is the ultimate motivation for this book. I chose the field of education as a career that would give me a chance to help reduce racial and economic inequality, little suspecting that by the time I retired education would have become one of the most effective mechanisms by which the privileged maintain their status from one generation to the next. Ironically, greater access to education has meant fewer opportunities for the less educated. With so many MBAs on the job market, the chances of rising from the mailroom to the executive suite have all but disappeared. While some continue to use education as a ladder for social mobility, schools have become ever more stratified in parallel with the families they serve—impoverished inner-city schools contrasting with luxurious suburban schools. Higher education is even more reflective of class. Admission to the “Ivy Plus” has become a ticket to graduate and professional degrees, prestigious employment, and wealth-enhancing social networks. Yet more students in those elite institutions come from families in the top 1 percent of the income distribution than from the bottom half.²⁵

The purpose of creating career pathways is to enable more young people to gain the competencies they need to become productive workers,

nurturing family members, and active citizens. For this reason career pathways must open, not constrain, opportunities, and they must favor those who need opportunities the most. I hope educators and policy makers, government officials, employers, and citizens whose hard work is needed to make these changes will find ideas and encouragement in this book, and that it will honor those whose inspired efforts are highlighted in these pages.

A NOTE ON SOME TERMS

I refer throughout to STW and CP as *movements*, meaning rather loosely organized group actions toward shared goals. Those promoting a movement may conceive of their actions as a *campaign*. These terms apply to the disparate actions of people who have supported the goals embodied in STW and CP. When an identifiable group coalesces around their version of those goals, makes plans, and takes steps to implement those plans, I call it an *initiative*, preferring this term as more generic than *program*, because, as I argue, both STW and CP are best envisioned as *systems* rather than programs, though it is still appropriate to refer to what a single school does as a program. By “system,” I mean an interconnected set of things or principles and/or procedures that operate together.

A confound to this definition of a system is that it sets no boundaries. Nearly any system can be disaggregated into a set of subsystems, which, upon closer examination, prove to be themselves constituted of subsystems. Moreover, the initially identified system will inevitably prove to be a subsystem of some larger system. One can begin with an atom or the solar system and then move either up or down the size scale. By promoting the goal of creating CP systems, I urge readers to think beyond adding a few activities to students’ days that might go away next year when the grant ends, and to envision instead a sequence of career-related opportunities that transcend school and connect students with workplaces and postsecondary institutions, and to invent the new organizations and roles essential to creating and sustaining such opportunities, organizations, and roles.