

Preparing Today's Students  
for Tomorrow's Jobs in  
Metropolitan America

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CHAPTER 4

Improving Career and Technical  
Education in the United States

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To do productive work is a fundamental human need. Work attaches citizens to the public world and increases the health and well-being of families and communities. A significant task for any society is to support and guide young people as they explore occupations, test themselves in the work world, and determine how they will contribute to the economy. Under the best vocational education systems, such as those in the Germanic and Nordic countries, Australia, and New Zealand, young people complete the portion of their education that is "all school" at around age fifteen or sixteen. As they mature from later teenage to about age twenty, they enter a period of "learning to work," which integrates school and experience in a career area and ends with a nationally recognized qualification. By their early twenties, young people enter their careers, often transitioning seamlessly from integrated work and learning into full-time roles in their apprenticeship or internship companies.

Across developed countries, educators, policymakers, and economists recognize that the new "knowledge economy" demands higher levels of training and different skills than the twentieth-century high school or upper secondary school provided. (Upper secondary schools generally start at age sixteen and end around nineteen; students exit with a qualification more like a two-year community college technical degree than a high school diploma.) Young people with aspirations to white collar, "middle skill" jobs in high-growth areas such as health care, high tech, engineering, and finance, as well as those choosing the old trades, need more sophisticated skills and

knowledge than ever before. Some countries are doing well by young people, preparing most for good jobs requiring twenty-first century skills, protecting them from unemployment in the current economic crisis, and transitioning them into the labor force smoothly and relatively quickly. This is not the case in the United States.

This chapter first presents data that shows that strong vocational education and training systems (here called VET) correlate with low youth unemployment, low rates of labor market inactivity, smooth transitions into the workforce, and high upper secondary school completion rates. In addition, strong vocational education systems tie young people to the economic needs of their regions, since local employers are the ones who make apprenticeships and other forms of workplace learning available to them. In metropolitan areas with large concentrations of youth and many employment options, strong VET systems provide structure, guidance, and incentives for young people to connect to appropriate employers.

The chapter goes on to offer observations about vocational education or what is now called *career and technical education* (CTE) in the United States. (The U.S. Department of Education changed the terminology from vocational education and training—the term used in other parts of the world—to CTE in 2006.) It points to CTE's challenges as states and districts attempt to implement a system that will serve urban youth who are eager to work, but have few ties to a confusing and difficult-to-penetrate job market. They also lack the advantages of a post-high school, multi-year period of transition that is afforded their more affluent peers, for whom a bachelor's degree is simply the next agreed-on step to adulthood. The chapter then suggests that some models of CTE are promising, but that the United States has a long way to go to create a mainstream, well-regarded system that transitions young people choosing CTE smoothly into productive employment.

### Indicators of Youth Status in the Labor Market

The economic crisis in the United States is having an enormous impact on the well-being of many people, and is impacting youth disproportionately, especially in metropolitan areas where young people compete with adults for low-skill jobs. As in other downturns, young people are more vulnerable to unemployment, and more likely to move in and out of the labor market in temporary jobs rather than securing stable employment (Scarpetta, Sonnet,

and Manfredi 2010: 9). In 2008, the United States had a youth unemployment rate of about 11 percent, while the average calculated by the Organization for Economic Cooperation and Development (OECD), the international organization that provides comparative data on trends in its thirty-two member countries, was 14.4 percent. By July 2010, the U.S. rate of youth unemployment had risen above the OECD average to about 19.1 percent, and it is continuing to rise while unemployment as a whole hovers between 9 and 10 percent. During that same year, youth unemployment rates were substantially lower in Australia, Austria, Canada, Denmark, Germany, Japan, Korea, the Netherlands, Norway, and Switzerland (lowest at 4.5 percent in March 2010). Those countries had lower rates before the recent recession and smaller than average increases after (Scarpetta, Sonnet, and Manfredi 2010: 13). Given the shaky economies of some members of the comparison group such as Greece, Ireland, Italy, Portugal, and Spain, the United States should and could be higher up the rankings.

An additional indicator of youth distress in the labor market is the percentage of young people who are inactive; they are not job seekers and are neither in education nor in training. The latest figure (2006) for such young people (who are often called "NEET") showed that this group comprised 11 percent in the United States, a figure just above the OECD average (Scarpetta, Sonnet, and Manfredi 2010: 13).

As for transitioning youth from schooling to stable first employment (within five years of leaving education), data from OECD's *Jobs for Youth Review* puts the United States a little above average among sixteen OECD countries studied (OECD 2006–11). The United States does better than some European countries with what the study calls *high performers*—young people employed 70 percent or more of the time in the five years after leaving school. More U.S. students return to school after time in the labor market, but nearly one third of U.S. youth fall into the categories *youth left behind* and *poorly integrated new entrants*. *Left-behind* youth spend most of the five years in unemployment or inactivity; and *poorly integrated new entrants* move in and out of employment, unemployment, and inactivity, signaling difficulties in settling on a promising career path (Scarpetta, Sonnet, and Manfredi 2010: 14). This is a large group numerically in the United States because of the size of the youth population, and a cause for concern in a country with a very limited social safety net and few job protections for those who do land work.<sup>1</sup> With low skills and no high school diploma, entry into the job market is nearly impossible today. But the drop-out rate from high school has reached

epidemic proportions in many urban areas of the United States. In 2009, the most recent date for which data is available, 2.1 million young people went to school in what have come to be called “drop out factories,” high schools that lose more than 40 percent of their students between ninth and twelfth grades (Balanz 2011). Twelve OECD countries now have higher percentages of upper secondary school completers than the United States, so not only are their secondary completion rates higher, their young people are completing additional years of schooling and getting skills with viability in the labor market. Among the high performers, countries with strong VET pathways such as Austria, Germany, and Switzerland have the majority of students in VET systems and graduation rates above 90 percent. (Quintini 2009)

Along with the lack of a diploma, young people in the United States may be experiencing trouble finding jobs in an increasingly competitive market because they are not achieving academically at acceptable levels, nor are they trained in the technical skills required for many metropolitan job markets. On the OECD’s PISA assessment, which tests a sample of fifteen-year-olds across a wide range of countries every three years in math, science, and literacy, the U.S. performance has been consistently mediocre. In the most recent round of testing (2009) the United States scored only a small increment above average. With its attention to applying knowledge, PISA provides a better indicator of college and career readiness than many traditional discipline-based tests of content.

Countries that are doing much better than the United States by their young people—supporting them to achieve academically at higher levels, keeping them in school, and, most importantly, structuring the transition from school to work so that almost everyone has training for an initial career and enters the workforce smoothly—share two characteristics. First, they have special youth policies that view younger generations as important to support, protect, and engage with as an investment in future prosperity. Second, in partnership with employers and unions, they educate from 40 percent to 75 percent of their young people in vocational education systems that link education and regional labor market needs and include substantial learning in the workplace.

Youth policies send strong signals to young people, their families, and employers that society has a collective responsibility to prepare its members for productive adulthood. Some youth policies include guarantees of schooling coupled with work experience while others include sanctions for non-participation. Almost all allow employers to pay a training wage to young

people who are learning in the workplace while completing upper secondary school, and increasingly, countries are requiring students to stay in school or in a combination of school and work until they complete a qualification or reach age eighteen.

In regard to learning in the workplace, in the best VET systems, curriculum and assessments replicate authentically the messy, problem-based, people-intensive, and time-limited world of work. VET teachers “identify *occupational situations* which are significant for the work activity and also have a potential for learning” and structure competences to be assessed around them (Fischer and Bauer 2002: 142). The informing orientation of VET pedagogy is authentic, problem-based rather than discipline-based learning. In short, the smartest and quickest route to a wide variety of occupations for the majority of young people in the successful countries is a vocational program that integrates work and learning.

To sum up, while most teens in the United States and elsewhere stay in school because they want to prepare for a job, other countries are doing much better than the United States in helping young people who are not headed for a four-year degree prepare for and enter stable employment. In the more successful countries, the explicit goal of upper secondary VET is to provide the education and training young people need to prepare for a specific career or calling. In the United States, the goal of high school CTE is to help young people explore careers so they don’t drop out of high school. This distinction may seem subtle, but it is not. An education system that, in partnership with employers, holds itself accountable for preparing youth for careers and moving them into productive roles in the labor force has a different orientation than one that is largely school-based, disconnected from employers, and focused on skills and knowledge needed for college-level study. For young people who go on to a community college where career preparation is a goal, with a few exceptions, employers are not engaged, little learning takes place in workplaces, and linkages between curriculum and labor market requirements are frequently haphazard.

### CTE in High Schools

The data above are useful in putting the United States’ results in international context, and indicating that much better outcomes are possible, but an enormous challenge is how to reorient and build from the current CTE

options so that they provide meaningful work-based learning, and better link urban, low-income youth who are headed into the labor market with high school and community college degrees with the jobs in their metropolitan labor markets. (See Bridget N. O'Connor's chapter in this volume for further discussion of work-based learning.)

A significant proportion of American high school and college students intend to pursue employment that does not require a baccalaureate. Many begin by enrolling in career and technical programs at the secondary level. About one in five high school students in the United States concentrates in occupational education programs (NCES 2008). Among 2005 high school graduates, more occupational education credits were earned than credits in fine arts or languages. Among CTE high school graduates who go on to postsecondary study, most choose an industry certificate or a community college associate's degree in an applied field (Skinner and Apling 2006). Some CTE graduates go immediately to work, and a small number pursue a four-year degree. Other post-high school options are short-term training programs, delivered either in for-profit or community-based organizations, or a registered apprenticeship that combines some training with work.

As Thomas Bailey and Clive R. Belfield also discuss in their chapter in this volume, at all postsecondary levels (certificate, associate's, and bachelor's), more students concentrate in career fields than academic subjects. Over 40 percent of college freshmen start in community colleges and most of these enroll in occupational programs. The trend has been away from CTE program concentrators toward more academic education at both the high school and postsecondary levels. But occupational *course taking* and credits have increased at the postsecondary level and held steady at the secondary level, signaling that, while students may not sign up for a CTE program, most take at least one career-focused course showing that they are interested in exploring career options (NCES 2008).

The wide range of careers targeted by CTE programs is reflected in the diversity of delivery mechanisms used to instruct CTE students. Programs and courses offering career preparation at the high school level are delivered in many different forms. The comprehensive high school, the legacy of the expansion of high school education to a wide range of young people in the 1950s, still predominates, especially where population density can support only a single high school. Such a school would have academic and CTE tracks, although some proportion of CTE students would likely be placed in academic courses with their college-prep peers.

In many urban areas, large schools have been broken down into smaller learning communities, academies, or even separate schools with their own principals housed in a single large building. Such smaller entities often have career themes—media, health careers, leadership, social justice, business, information technology, and the like. While these often sound like career preparation programs, most are not intended to lead directly to work after graduation. There may be internships, a partnership with an employer, or a community service opportunity, but work-based learning is rarely available to all students for extended periods.

CTE is also delivered through vocational technical schools devoted to career preparation, including high schools in large urban areas devoted to a single career area (such as automotive technology or aviation science). Sometimes such vocational technical centers serve students who are transported there for parts of the school day. In urban areas particularly, vocational schools have high proportions of low-income students of color, newly arrived immigrants, and students with special needs.

Despite the existence of a varied CTE high school delivery system, the system as a whole faces persistent challenges:

- High school programs cannot meet the academic and technical standards that students need to master in order to enter into postsecondary programs without remediation.
- Community college programs have high rates of entering students who do not meet prerequisites or who fail to complete after enrolling because of their life circumstances and because the college's academic and social supports are stretched thin.
- Inadequate communication and poor alignment of secondary and postsecondary programs and curricula in a region make it difficult for high school students to understand the options available to them and what it will take to gain entry into programs with labor market payoffs.
- Employers are not engaged in designing technical programs to meet their needs or in sending clear signals to students about skills, attitudes, behaviors, and opportunities for exposure and experience that can maximize employment options.

The impact can be seen in the results for students. At the high school level, employment and earnings gains from participation in high school CTE

programs are weak: no relationship has been found between the earnings of men working full-time six years after completing high school CTE programs and the occupational courses they took in high school; for women, the impact was negative (NCES 2008). (An exception to these employment outcomes is the record of the career academies, small career-themed programs that have been found to result in significant employment and earnings increases for low-income males. (See Kemple 2008; Kemple and Snipes 2000.)

### CTE in Community Colleges

Recognizing the limits of high school CTE and accepting the notion that high school CTE should be exploratory, U.S. educators and policymakers have increasingly advocated for placing in-depth technical training in community college rather than in high school. The argument is that students need stronger foundational or basic skills than ever before: math, computer skills, writing, and critical thinking are required for many occupations. Educators believe that these skills cannot be taught in high school to the necessary levels simultaneously with high-level technical skills: vocational high schools are best at introducing career choices and giving students a taste of work in various fields. Today, most advanced career and technical education is delivered to postsecondary students via four-year colleges, community colleges, or technical colleges, as well as proprietary institutions or for-profit institutions. Instruction includes both traditional classroom delivery and, increasingly, online courses. States are providing advanced college-level CTE courses to high school students via tech-prep and dual enrollment classes in both traditional high schools and such new models as early college high schools.

The community college CTE sector is difficult to characterize. Community colleges offer an enormous range of programs and fill multiple missions—preparing students to transfer to four-year institutions, mounting adult basic education programs, tailoring programs for incumbent workers for employers. As for occupational programs, with many specialties and specialties and wide variation in requirements across colleges in the same system, good data about CTE programs is hard to come by (Shulock, Offenstein, and Moore 2011). The most extensive recent research concerns

developmental education and credential completion rates and sets out clearly why the sector needs substantial improvement if it is going to serve the needs of urban youth looking for credentials that will be viable in their regional labor markets. Nearly 60 percent of all entrants are placed into non-credit remediation, many of them recent high school graduates. Indeed, fewer than 25 percent of developmental education students complete a certificate or degree within eight years of enrolling. Many never get beyond a remedial math course. Indeed, about two-thirds of entering students have skills so weak that their ability to ever complete a college level course is in peril (Bailey 2009). And even if students succeed in placing into credit-bearing courses, most enter without a clear career focus, leaving them vulnerable to costly errors in course taking and academic drift. Community colleges, in general, do a poor job of providing information to help young people chose a program of study (information such as course requirements, length of time to complete, or employment prospects) (Rosenbaum, Deil-Amen, and Person 2006).

There are additional hurdles for urban youth. Most of the programs in such high-demand fields as health, information technology (IT), engineering, media, and finance have prerequisites such as college-level mathematics, biology, introduction to IT, and the like for entry. Although community colleges are open admission, these programs are not. That is, students can only apply to enter these programs after successfully completing key general education courses. High-demand programs of study like nursing are competitive, with limited slots available. With competition for entry, priority tends to go to students who already have B.A.s, work experience, or are transferring in substantial college level work. This is despite the fact that there is a substantial economic payoff to earning a long-term (thirty credits or more) certificate, and for their economic futures, young people should be entering and completing such programs (Carnevale, Smith, and Strohl 2010). Consistent with data in the chapter in this volume by Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, recent data from Florida confirms that graduates with a well-chosen two-year associate in science degree earned \$10,357 more on average than baccalaureate graduates of the State University System (Miami Dade College Forum 2011).<sup>2</sup>

Across the sector, certificate and degree completion rates are dismal. Recent evidence from a California study shows that while community colleges mount career programs in high wage fields—the researchers studied information technology, engineering technology, engineering, and nursing—those

who complete the programs, and few do, are older and do not need developmental courses (Shulock, Offenstein, and Moore 2011). While more research is needed, this study and other anecdotal evidence suggests that high schoolers with low to middling grades who make it into credit-bearing courses may not get through anatomy, math, basic IT courses, and similar prerequisites, and so are excluded from advanced technical training. Nonetheless, career education is strong in many community colleges so there is much on which to build.

### National Education Policy Related to CTE

Given the picture above, how is the nation addressing the disconnect between the evident desire of young people to enter the labor market and an education system that is failing to help them achieve that end? After years of work on improving high school graduation rates and college matriculation, the nation is focused on the *completion* of a postsecondary credential, including the bachelor's degree but with particular emphasis on the associate's degree or certificate conferred in a community college. The logic is as follows:

- The United States has fallen behind because, though we produce a high number of bachelor's degrees, we lag in the production of associates degrees.
- To increase degree production, the country will have to better educate the most challenging segments of the population—students who are first-generation college goers, students of color, low-income students, and English language learners.
- Many of these students now do not complete high school, graduate poorly prepared for college, never exit from community college remedial courses, and/or do not complete a credential.
- While the American dream asserts that these students should have the choices of their more affluent and better-prepared peers—specifically, to earn a bachelor's degree in four years on a residential campus—many will end up in community colleges.
- These students will choose, be counseled, or be tracked into programs leading either to a transfer degree or, more likely, to a career-oriented program.

So despite the worrisome record of community colleges as a source of career education for young people, the policy community is depending on them as the engines of job training and upward mobility. Except for for-profit institutions, as William G. Tierney discusses in his chapter in this volume, there really is no other choice. As is often the case when the U.S. economy falters, students are flocking to community colleges, exposing just how stretched those institutions are in meeting their goal of producing graduates ready to enter the labor market with the appropriate skills and training. As Tierney also notes, many of the community colleges serving heavily populated areas have turned away applicants for lack of seat space. In California, for example, community colleges turned away 140,000 students in 2010–11 and anticipate turning away an additional 140,000 in the 2011–12 academic year (California Community Colleges Chancellor's Office 2011).

While the emphasis on completion is long overdue, it is only as the fiscal crisis drags on into 2011 that policymakers, educators, and families are asking not only what a completed college degree is worth, but whether some credentials are a better bet than others. That is, in a recent Heldrich Center study of 571 B.A. recipients graduating between 2006 and 2010, only 56 percent of those who got their diplomas in spring 2010 had a first job. And 40 percent of the jobs landed by those who graduated in the entire four years studied did not require a bachelor's degree. This kind of data is shifting the spotlight from “college for all” to “college for what” (Godofsky, Zarkin, and Van Horn 2011). It is then a good moment for policymakers and educators in the United States to strengthen career pathways—and to consider work-based models more like those in countries that have strong vocational education systems.

But policy proposals that focus more attention on helping low-income urban youth prepare for high-skill jobs in their local communities through more effective high school and community college vocational programs have reawakened debates about tracking. Should all young people be on a pathway to a postsecondary credential? Is that an appropriate aspiration? If a postsecondary credential—the majority view—then does the call for “college for all” mean that everyone needs a bachelor's degree, or is a community college degree with an occupational or technical focus an acceptable postsecondary option? At both the secondary and postsecondary levels, CTE comes with considerable stigma based on history. Secondary school systems have used CTE as the route for non-academically inclined students

with weak high school preparation, and since many such students are poor, of color, and have not had access to the opportunities and choices of their more advantaged peers, CTE has raised issues of social justice. Civil rights activists among others fault school systems for pushing low-income young people and young people of color into low-quality high school and community college CTE programs while more affluent young people get a liberal arts education. A review of the literature on occupationally focused community college outcomes concludes that “choosing an occupational major may have negative effects on earning an associate’s or bachelor’s degree” (Offenstein, Moore, and Shulock 2009: 5).

As I write, the country is in the midst of a heated debate about CTE, sparked in part by a new report from the Harvard Graduate School of Education, *Pathways to Prosperity*, which argues that the country needs a more robust set of options (in addition to traditional four-year college) for the wide variety of young people—not only low-income students—who respond to applied learning, do not want to sit in classrooms for four years after high school, and want to try themselves out in adult workplaces sooner rather than later (Symonds, Schwartz, and Ferguson 2011). In addition, as *Pathways to Prosperity* points out, only 40 percent of twenty-seven-year-olds currently hold a postsecondary credential today; thus even if the country were to succeed in credentialing 55 or 60 percent of the adult population by 2025—the goal set out by the White House and several major philanthropies—simple math leaves 40 percent still without a credential beyond high school.

In a recent article in *The Nation*, Dana Goldstein asks whether “sounding the call for a more intellectual version of ‘career and technical education,’ or CTE, one that infuses traditional vocational training with the academic rigor and ethic of college prep,” is the way forward (Goldstein 2011: 1). Such debate is healthy, but it puts major pressure on educators responsible for CTE to come up with improvement strategies that would comprise this more intellectual version if CTE is going to overcome the legacy of tracking. Shorthand for that version of CTE might begin with the ideas of John Dewey and a long line of progressive educators who have argued that learning is most powerful when it involves reflection on action in the real world.

Commenting on the CTE debate, Mike Rose, who has written widely on the cognitive demands of physical labor, put the challenge this way: the distinction between manual and abstract-minded ways of thinking “emerged out of a cluster of troubling beliefs about knowledge, education, and the social order, and these beliefs continue to constrain our educational imagination.”

He also argued that “it would be foolhardy to dismiss labor-market realities, for many low-income students are in immediate financial need. These students can commit to postsecondary education only if it leads to a decent wage and benefits” (Rose 2011). The best CTE programs are intellectually challenging, whether focused on the old trades like automotive technology or new professions in IT or finance; they also provide work-based learning experience that gives students a leg up in the job market. Before coming to these model programs, I briefly describe the state of work-based learning.

### Work-Based Learning

Most educators, particularly CTE educators, would agree that some form of applied or work-based learning linked to labor market needs should be included in students’ pathways; and many understand that workplace learning, a type of work-based learning, can be both specific and broadly contextualized. But, as Bridget O’Connor in this volume discusses, in the United States, work-based learning opportunities in companies that might later employ program graduates are the exception, not the rule. Opportunities for internships and service learning—both workplace kinds of experience—are more available to well-connected and outstanding students than to the average to lower-achieving high schoolers who would likely benefit most. Selective colleges are known to give an edge in admission to students who have had demanding internships in high school, but many of these internships are competitive and unpaid, and therefore not available to low-income students who are seeking paid work. In postsecondary education where work experience in a student’s chosen career area (a summer job in a scientific research laboratory or in a financial services firm) might be the distinction between one student’s job application and that of another graduate, again low-income young people are often shut out because they do not have the social capital to land these kinds of paid opportunities (Perlin 2011).

Although students may not have school-related internships, many high school students work or want to. Research confirms that employment in the teen and young-adult years can have a very positive impact on future prospects for employment and earnings, and teens who work in high school are less likely to drop out. Conversely, low-income teenaged men who do not find work are more likely to get into trouble with the law, while their female

counterparts are more likely to become single mothers. The percentages of teens and young adults who are working are now at the lowest levels recorded since the end of the 1930s Depression (Symonds, Schwartz, and Ferguson 2011). The current youth employment crisis affects the youngest and least advantaged cohort first because they are the least well-prepared for jobs.

### Promising Practices in CTE

Given this picture—a low-income youth population concentrated in metropolitan areas with dismal job prospects and an inadequate education system—the United States needs to make a greater investment in the CTE models that are already proving their potential in the labor market or are at least designed to do so. In this concluding section, I briefly describe initiatives in high schools, some with pathways to community colleges that are carefully preparing young people for careers—taking into account the career-specific knowledge needed, providing strong foundations in reading, writing, and math, and getting students at least some of the experiential learning and real time problem-solving that makes a difference in the labor market.

At the high school level, cutting-edge career and technical education (CTE) bears little relationship to traditional vocational education programs that are sometimes little more than schools of last resort for students who were not going to succeed in college prep. National initiatives such as career academies, Project Lead the Way, High Schools that Work, and Linked Learning—a more recent California initiative—combine the broad academic foundation needed for further education with some depth of study in a career area.

According to MDRRC research, the career academy movement, the largest “modern” CTE program now some 7,000 schools strong, helps graduates achieve higher earnings as adults. The academies introduce students to career themes, and typically include workplace learning (Kemple 2008). Project Lead the Way introduces high school students to engineering using a rigorous, uniform curriculum, national assessments, professional development for teachers, and extensive project-based learning, and can be installed within a traditional high school. It has now spread to over 3,000 high schools. High Schools That Work (HSTW), developed by the Southern Regional Edu-

cation Board, has grown into the nation's largest effort to integrate challenging academics and CTE. The newest of the modernized CTE models is Linked Learning, an ambitious California initiative that goes beyond career exploration in high school to provide engaging career concentration in areas of high demand in specific labor markets in the state—engineering, biomedical and health sciences, energy, information technology, manufacturing, natural resources, and the like.

With aspirations to engage employers and to place students in serious internships, Linked Learning has established a special teacher preparation program, since teachers who enter CTE from the work world may not have the skills to work in such programs, and traditionally trained teachers often do not. Sounding very much like the best European VET models, Linked Learning requires its teachers to “design meaningful instructional tasks based on real-world problems, stay abreast of changes in their field, identify cross-sections between academic and career-technical focuses, coordinate school and workplace learning, simulate workplace environments, identify career paths, and understand labor trends and projections” (Hoachlander 2008).

Two high-performing networks for high school age young people—Cristo Rey and Year Up—have commonalities with European apprenticeships: substantial work experience is a requirement for everyone, and students are socialized to understand and perform well in a business culture. Both serve primarily low-income urban young people. Through its Corporate Work Study Program, Cristo Rey has its students work one day a week in hospitals, universities, law firms, research labs, and private businesses. Serving high school graduates ages eighteen to twenty-four entering the workforce with weak skills, Year Up provides technical and professional skills, college credits, an educational stipend,<sup>1</sup> and a six-month corporate internship.

Some high school CTE programs have certification and licensure requirements that include clinical or workplace experience that is evaluated as part of completion requirements designed to meet state, national, or even international standards. City University of New York (CUNY) is starting a new community college designed according to an entirely new work and learning model; students will prepare for a limited number of careers in high-need and high-value areas in New York City.

States are also linking high school and postsecondary education to support college-level credit in high school through dual enrollment and accelerated whole school models such as early college high schools. The recent rapid

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growth in dual enrollment programs and the promising development of a national network of some 250 Early College High Schools (ECHS) suggest that some of the barriers that have prevented better cooperation across the secondary/postsecondary boundary are beginning to break down. There are now over 53,000 young people in the ECHS network, the majority low-income students and students of color. Over 40 percent are graduating from high school with at least one year of college credit, and nearly a quarter with an A.A. degree. About one-third of the programs have a STEM focus, with young people equipped to enter the job market after the A.A. if they want to. North Carolina's Learn and Earn schools offer ECHS STEM- and career-focused models, with strong political support and employer participation, that other states and districts could adapt to suit their education and employment needs.<sup>3</sup>

Several national philanthropies are turning their attention not just to completion, but to improved access to career preparation for young adults. New programs draw on a body of rigorous research about the I-BEST approach (Integrated Basic Education and Skills Training) developed by the Washington State Board for Community and Technical Colleges (SBCTC) that demonstrates that retention improves if students are enrolled in a program of study with basic skills embedded in their first occupation-related courses. Other research-based design features include fewer choices among postsecondary courses, more structure, and accelerated time to completion (Rosenbaum and Person 2006; Offenstein, Moore, and Shulock 2009; Wachen, Jenkins, and Van Noy 2010; Jenkins 2011). In addition, community colleges that have strong links to employers and provide service learning and internships are taking up the challenge of ensuring that urban young people are given the information, academic preparation, and guidance they need to take advantage of such opportunities.

### Possibilities for Progress

So where do these examples leave us? No one has to convince young people that completing high school and attaining a community college degree or certificate with some work experience in the chosen career field is a must today, and a good investment even if you want to go on to a four-year institution or graduate school. The problem is that excellent but scattershot opportunities for young people do not constitute a system. A promising

strategy to engage U.S. employers in building a stronger CTE system is to begin with community colleges rather than high schools. The primary labor market is not set up to absorb sixteen- to eighteen-year-olds in any substantial numbers, even as trainees, and most employers would be skeptical that young people at that age could make a productive contribution to the company's bottom line, whatever the evidence from Switzerland or Germany. Our employers are more likely to provide work and learning opportunities for young people already enrolled in community college—a signal of perseverance and initiative.

A second lever for building a system of career education in the United States is to acknowledge that a high proportion of students are already both working and learning. As described in Laura Perna's (2010) edited volume, the problem is that in all but a handful of cases, these two activities are competing with, rather than complementing, one another. Except for those institutions that offer "cooperative" programs in which the institution organizes job placements aligned with a student's academic program, paid student employment (as distinct from unpaid internships) is disconnected from the academic program, and students are forced to fit their work schedule around their academic course schedule rather than being able to plan these two sets of activities in an integrated fashion. Most students are not in "student-friendly" workplaces.

The ultimate goal should be to build career pathways that pick students up in high school and carry them through to a postsecondary occupational certificate or associate's degree. Programs that span grades eleven to fourteen would not only align our CTE system with the age span covered in most strong VET systems, but would enable a more efficient use of scarce federal and state funds that are now divided between secondary and postsecondary levels. In summary, for either high school or community college programs, the following are important building blocks and characterize best practices today:

- employer and business leader engagement in the design and support of effective pathways to careers;
- structured pathways with clear requirements, timelines, and outcomes leading from high school through postsecondary credential completion;
- opportunities to engage young people in workplace learning;

- effective career counseling and guidance, including scaffolded exposure to employers and career pathways beginning in the middle grades;
- new institutional structures at the regional labor market level to provide coordination, quality assurance, and sustainability.

Because the career and technical education system serves so many of the country's most vulnerable and least privileged young people, particularly in urban areas, its weaknesses are especially troubling. High school CTE and community colleges have become the United States' de facto job training system, but a much more outcome-focused, efficient, and effective system is needed. CTE is one road that can put young people on the path to careers with middle-class wages, but it has a long way to go, and political and practical barriers to address, to realize its potential.

## CHAPTER 5

### Postsecondary Education and Economic Opportunity

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#### The New Consensus: Postsecondary Education Is the Legitimate Arbiter of Economic Opportunity

Education has always played both a social and an economic role in the United States. Since the industrial revolution, Americans have looked to education to help reconcile the equality implicit in democratic citizenship with the inequality natural to market economies. After the closing of the frontier in the late nineteenth century, education became an important route to economic success. In the post-World War II era, education gradually evolved into the preferred and the most well-traveled route to good jobs. While not new, the correlation between education or training after high school and career success has strengthened dramatically since the 1980s.<sup>1</sup> Education and economic opportunity are more closely linked than ever. Today, the overwhelming consensus is that access to postsecondary education or training is necessary for access to the middle class—and the data support this consensus. The recession of 2007 accelerated this trend, both through the elimination of many good jobs that required high school or less and through the strengthening of the importance of postsecondary education. Social policy analysts and commentators are now rightfully worried that workers without any postsecondary education will fall behind in the twenty-first-century economy (Cohen and Balz 2011).

This new reality finds wide support in American society because, in theory, using access to postsecondary education to drive economic opportunity