The MyWays™ Student Success Series

All reports in the series are available for download at myways.nextgenlearning.org/report.

Visual Summary
Introduction and Overview

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Summarizes specific real-world realities and conditions confronting today’s young people.

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Provides a composite definition of student success in learning, work, and life.

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Part C: Redesigning the Learning Experience for the MyWays Competencies
Brings the broader and deeper competencies of the MyWays Student Success Framework into educational practice.

Report 11: Learning Design for Broader, Deeper Competencies
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About this report

Report 1, Opportunity, Work, and the Wayfinding Decade, traces the growing opportunity gap in this country and examines employment challenges and labor market shifts that have transformed the journey from high school to gainful employment into a highly complex and risky wayfinding decade for today’s youth; it concludes with four key takeaways for next generation educators.

Report 1 is the first of five reports in Part A of the MyWays Student Success Series. Part A, “Adolescence in an Age of Accelerations,” analyzes the real-world changes and conditions that are most acutely impacting young people and outlines key developmental tasks of the adolescent years.

The MyWays Student Success Series examines the through-line of four essential questions for next generation learning and provides research and practice-based support to help school designers and educators to answer these questions. The series consists of 12 reports organized into three parts, plus a Visual Summary and Introduction and Overview.

The primary researchers and authors of the MyWays Student Success Series are Dave Lash, Principal at Dave Lash & Company, and Grace Belfiore, D.Phil., Principal Consultant at Belfiore Education Consulting.

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REPORT 1

Opportunity, Work, and the Wayfinding Decade

“With millions of jobs lost and experienced workers scrambling for every available position — America’s young people stand last in line for jobs.” — Annie E. Casey Foundation

As this report will show, when our children leave high school today, they slam into the worst under-30 employment prospects since the Great Depression. In addition, while employers increasingly expect prospective employees to have postsecondary education, its cost is escalating and its financial rewards are uncertain.

Report 1 is the first of five reports in Part A of the MyWays Student Success Series in which we explore “Adolescence in an Age of Accelerations.” We begin by tracing the diminishment of American opportunity through hard work, and then examine the unprecedented employment challenges faced by today’s young people. Next, we summarize the “brawn to brains” shift in the labor market, which is shrinking and restructuring the middle-skill labor sector — the very sector that young people have historically relied upon to get their start. For almost all students, these changes have transformed the journey from high school to gainful employment into a complex and risky wayfinding decade for which few are prepared. Furthermore, for low-income students and students of color, these changes — together with significant and growing gaps in postsecondary attainment — are dramatically widening the opportunity gap. We conclude Report 1 with four key takeaways for next generation educators.

Report 2 examines the labor market and the 5 Roadblocks to Bootstrapping a Career. Report 3 outlines trends in postsecondary education and the 5 Decisions in Navigating the Work/Learn Landscape and Report 4 studies the importance of social support and relationships and the 5 Essentials in Building Social Capital. Finally, Report 5 outlines key adolescent developmental tasks in Preparing Apprentice-Adults for Life after High School. Together, these reports summarize our research on the first of the MyWays Through-line questions: Why the urgency to change, and what are the real-world conditions that our students will need to address?

The resulting profile of the world today, together with other student-success research, drove the development of the MyWays Student Success Framework and its 20 competencies. Our goal was to meet
two critical societal needs: 1) **the need to rekindle upward economic mobility** in the face of troubling economic pressures, and 2) **the need to address the developmental and cultural challenges of transitioning from childhood to adulthood** in an era of unprecedented change.\(^2\) The resulting competency framework is described in **Part B, “Broader, Deeper Competencies for Student Success,”** a second group of reports that includes an overview of the MyWays Student Success Framework (Report 6) and reports on each of the four MyWays domains (Reports 7–10). Finally, **Part C, “Redesigning the Learning Experience for the MyWays Competencies”** explores work being done across the country to reimagine and reinvent the learning design (Report 11) and assessment design (Report 12) required to bring broader, deeper competencies into educational practice.

With enormous stakes for youth and society, the future of “equal opportunity” may largely be determined by the architects of next generation learning systems and how innovative those systems are in helping young people develop the broader, deeper life competencies we describe.

**Equal opportunity: Can we rebuild it?**

> “The road to wealth, to honor, to usefulness, and happiness, is open to all, and all who will, may enter upon it with the almost certain prospect of success.”\(^3\)

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*McGuffey’s Reader, 1843
America’s first national “textbook”*

For most of the past century, America’s social mobility was the envy of the world. Bountiful natural resources, technological inventiveness, free public education, and the highest level of high school attainment in the world produced a rising tide: a growing economy, a rising quality of life for most Americans, and unparalleled opportunities for hard-working families and immigrants to prosper well beyond their circumstances.\(^4\) As Robert Putnam notes in his extraordinary book, *Our Kids: The American Dream in Crisis*, upward mobility during the 20th century galvanized one of our most universally held American values:

> About 95 percent of us endorse the principle that “everyone in America should have equal opportunity to get ahead,” a broad consensus that has hardly wavered since opinion surveys began more than a half century ago.\(^5\)

Or, as former Federal Reserve chair Ben Bernanke states:

> A bedrock American principle is the idea that all individuals should have the opportunity to succeed on the basis of their own effort, skill, and ingenuity.\(^6\)

The sad truth is that the path to prosperity — or even a basic, stable existence — is increasingly out of reach for many American families and youth. Following an inflection point that occurred around 1970,
mobility for low- and middle-income Americans has deteriorated — a trend that led social activist Van Jones to caution: “We should not be lying when we tell our children, ‘You can make it if you try.’”

Today’s labor market dynamics and the roadblocks currently confronting under-30s have their roots in structural changes that began more than 50 years ago. Indeed, the 1970s connect two decidedly different half-centuries — a contrast noted by economic historians Claudia Golden and Lawrence Katz and many others.

Focusing on children’s life chances, for example, Greg Duncan and Richard Murnane summarize that shift as follows:

Americans want to believe that ours is a land of opportunity, where no matter what a person’s starting point, those who work hard — and their kids — can “make it.” For much of the twentieth century, economic growth made that dream a reality for generations of Americans. This was particularly evident in the thirty years following the end of World War II, when both the economy and the incomes of families at the top and the bottom of the income ladder doubled in size.

Fueling much of this growth was an increasingly educated work force. Average schooling increased by six years between 1900 and 1970, with growing numbers of children completing more education than their parents. This, coupled with technological advances that benefited both high- and low-skilled workers, led to widely shared increases in living standards and intergenerational mobility.

But storm clouds began to gather in the 1970s. In contrast to the first three-quarters of the twentieth century, the last quarter saw computer-driven technological advances that rewarded skills that only the most educated Americans possessed. Moreover, many manufacturing jobs began to be outsourced to low-wage countries. These trends, continuing into the twenty-first century, have translated into substantial growth in the wages of college graduates, no growth in the wages of high school graduates, and falling wages for high school dropouts. As a consequence, the living standards of children in higher-income families have risen while the incomes of low-income children have stagnated or even declined.

As we now describe, the effects of these technological advances are felt most acutely by under-30s — especially low-income students and students of color.

**Today’s rough-and-tumble passage to the world of work**

“Everyone should be concerned about this new environment where college appears to be necessary for a child’s future, increasingly expensive, but also increasingly risky in terms of career prospects.”

—Peter Cappelli, *Will College Pay Off?*
Fifty years ago, a bachelor’s degree likely led to a secure long-term job, participation in an employer training program, and healthy wage increases. By contrast, despite a meaningful wage premium over high school graduates, today’s college graduates face significant unemployment and underemployment, the elimination of most formal employer training, and reduced job security. Today’s employers are more likely to invest in technology and automation than employee development; hire and fire based on short-term needs; and look for candidates who already have the skills and work experience to perform immediately. “In the process, they are pushing the problem of getting job skills onto the students,” says Cappelli, “and the students are not doing very well at it.”

Cappelli is director of the Wharton School’s Center for Human Resources and author of two books that provide important insights for next generation educators and youth advocates: *Will College Pay Off?* and *Why Good People Can’t Get Jobs*. In these readable books, written for general audiences, he traces the sweep of structural shifts in labor demand and supply, education and training, and hiring practices.

Cappelli’s work, and that of other economists and researchers studying labor market trends, reveals that these structural shifts — exacerbated by the Great Recession — are impacting under-30s disproportionally. They have become canaries in the mineshaft of a global job-shedding era. As a result, patterns of education, employment, and income are shifting in new, less labor-friendly directions.

**The employment crisis among under-30s**

Only half of young people age 16 to 24 held jobs in 2016, the lowest level since World War II. In his 2015 investigation in *The Atlantic*, “*A World Without Work*,” journalist Derek Thompson highlights the under-30 crisis:

Six years into the recovery, the share of recent college grads who are “underemployed” (in jobs that historically haven’t required a degree) is still higher than it was in 2007 — or, for that matter, 2000. And the supply of these “non-college jobs” is shifting away from high-paying occupations, such as electrician, toward low-wage service jobs, such as waiter. More people are pursuing higher education, but the real wages of recent college graduates have fallen by 7.7 percent since 2000. **In the biggest picture, the job market appears to be requiring more and more preparation for a lower and lower starting wage.** The distorting effect of the Great Recession should make us cautious about over-interpreting these trends, but most began before the recession, and they do not seem to speak encouragingly about the future of work. [emphasis added]

According to the Pew Research Center, job losses experienced by under-30s are part of long-term trends and not simply the result of higher college enrollment or the Great Recession. What is particularly
alarming is that impacts on minority under-30s, even minority college graduates, are much worse than for their white counterparts. Among young high school graduates of color, unemployment rates have exceeded 20% ever since the recession.\textsuperscript{15}

The under-30 employment crisis is a global phenomenon attracting concern from the United Nations, the Organisation for Economic Co-operation and Development (OECD), the International Labor Organization, the US Chamber of Commerce, United Way Worldwide, and other organizations. By one account, global unemployment among youth is three times higher than among adults. According to The Economist, youth comprise only 17\% of the world’s population, but 40\% of the world’s unemployed. The problem is affecting youth in both developed and developing countries; in Spain and Greece, for example, both Eurozone nations, more than 50\% of youth are unemployed.\textsuperscript{16}

In the US, despite a declining national unemployment rate, Pew emphasizes that youth employment indicators are at historic lows:

Since 2000, the share of young adults ages 18 to 24 currently employed (54\%) has been its lowest since the government began collecting these data in 1948. And the gap in employment between the young and all working-age adults — roughly 15 percentage points — is the widest in recorded history. In addition, young adults employed full-time have experienced a greater drop in weekly earnings (down 6\%) than any other age group [from 2007 to 2012].\textsuperscript{17}

\textbf{College is no longer a safe harbor}

Throughout the recession, we heard that unemployment for those with bachelor’s degrees never exceeded 5\%, while the overall unemployment rate was twice as high. However, this was not true for younger college graduates (age 21–24) of whom 7.4\% were unemployed — more than twice the rate of older graduates. In addition, many younger college graduates who do have jobs are underemployed, are working fewer hours than they wish, or are in jobs that do not require a college degree:

A [2013] study by the Center for College Affordability and Productivity found that half of all college graduates are working a job that the Bureau of Labor Statistics suggests requires less than a four-year degree such as retail sales people, cashiers, and restaurant servers. More than one in 3 are working a job that requires no more than a high school diploma including taxi drivers and parking-lot attendants. And the authors of this study suggest that younger college graduates are more likely than older college graduates to be working a job that doesn’t require a college degree.\textsuperscript{18}

In a survey of recent college graduates conducted by the Federal Reserve, nearly two-thirds reported that they do not have a job closely related to their field of study and one in four felt their education was not worth the financial costs.\textsuperscript{19}
Recent minority college graduates are even worse off. Unemployment rates for black and Hispanic graduates, for example, are typically double that of white graduates. Analyzing the discrepancy further, a report by the Economic Policy Institute remarks:

It is notable that having an equivalent amount of higher education and… work experience still does not generate parity in unemployment across races and ethnicities…. This suggests other factors may be in play, such as discrimination or unequal access to the informal professional networks that often lead to job opportunities.20

While some of this soft demand for recent college graduates is residual from the recession, the problem runs deeper, leading the Center for American Progress to note: “It is clear that even after a young American walks across the stage to collect a [college] diploma, he or she will not be spared the impacts of the dismal job market.”21

**Teen employment: evaporating before our eyes**

One-third of high school graduates do not enroll in a postsecondary program and, of that number, fewer than half were employed in 2012, which is the lowest employment rate for such high school graduates in the past 50 years.22 Teen employment takes many shapes and serves many purposes; however, these first jobs, no matter how limited and narrow, play a vital role as a window and gateway to adulthood and the workplace. Furthermore, for lower-income teens, earnings are essential to finance postsecondary education. Yet these work opportunities for teens are disappearing rapidly and may reach endangered status without robust intervention.

One of the most startling studies on the disappearance of teen employment opportunities was conducted in 2014 by the Brookings Institution under the direction of Andrew Sum:

Employment prospects for teens and young adults in the nation’s hundred largest metropolitan areas plummeted between 2000 and 2011. On a number of measures — employment rates, labor force underutilization, unemployment, and year-round joblessness — teens and young adults fared poorly, and sometimes disastrously.23

Researcher Nancy Hoffman at Jobs for the Future notes that low-income teens are most severely impacted:

In 2000, 44% of teens [aged 16–19] were in the labor market; by 2011, the figure had dropped to 24%. **For urban, low-income teens of color, the odds of having a job — any job at all — now stand at roughly 10%**. In fact, the teens with the highest employment rates come from families earning $120,000 or more, and the rates are lowest among teens with family incomes below $40,000, the young people most in need of earning power.24 [emphasis added]
Even teen summer jobs are in peril. Less than a third of teens are now able to find summer employment.\textsuperscript{25} According to researcher Christopher Smith at the Federal Reserve, the downturn in teen employment began in the 1980s and accelerated in the early 2000s: “during every subsequent recession, the teen employment rate has tumbled and never recovered.” Smith argues that immigration and occupational polarization in the US adult labor market has resulted in increased competition for jobs that teens traditionally held.\textsuperscript{26}

Educational psychologist Lauren Resnick, a proponent of linking school and work, believes that, in addition to these economic forces, there is an important attitudinal explanation:

Most companies are afraid of young people, viewing them as unreliable workers. They would rather hire more mature individuals, those in their upper twenties and, when possible, those who come with some prior history of work. \textit{But there exists in this country no systematic way for most young people to gain the experience that would make them attractive to employers}. So they drift from one short-term minimum-wage job to another, with frequent periods of unemployment in between.\textsuperscript{27} [original emphasis]

The employment crisis among under-30s is a byproduct of a large structural shift that is altering historical patterns of education, employment, and income — a shift, as many say, from \textit{brawn} to \textit{brains}.

**From brawn to brains: shifting skill levels in the labor market**

Throughout our nation’s history, the prosperity of American workers and the rise of the middle class have largely followed an increase in workforce education and skill level.\textsuperscript{28} However, over the past 30 years, technological change has shifted jobs in two directions: toward high-skill, abstract non-routine work on the one hand and, to a lesser extent, to non-routine manual work (low-skill jobs) on the other. During this time, middle-skill jobs — which often involve routine or replicable work — have been increasingly offshored or replaced by technology. The middle-skill share of all US jobs has fallen from 58% to 44% in the years from 1981 to 2011, while the high-skill job share has grown from 29% to 39% of the total over the same period.

This contraction of middle-skill jobs, which economists call “labor polarization,” is impacting the very positions that previously gave people a foothold in the economy and a path to middle-class living — those jobs being the “brokers, clerks, tellers, cashiers, telemarketers, title examiners, bookkeepers, insurance underwriters, travel agents, technicians…mail carriers, drivers, and cooks.”\textsuperscript{29} \textit{Today, middle-skill jobs that previously gave many young people their start are those undergoing the greatest transformation.}
In short, additional high-skill jobs are great news for those with the skills and experience to fit employers’ needs, but less skilled or less experienced workers face increasingly stiff competition for shrinking employment. MIT labor economist David Autor explains the technological forces at work:

The occupations that have contracted most rapidly as a share of total employment over the last three decades — in particular, clerical, administrative support, sales, production and operative positions — are reasonably well characterized as routine task-intensive: many of the core tasks of these occupations follow precise, carefully codified procedures. Because of exponential declines in the cost of computing power, these tasks are increasingly fallow for automation and hence are reassigned from labor to capital. As workers lose comparative advantage in routine-intensive activities, a greater mass of skills is reallocated towards the tails of the occupational distribution — both towards high skill analytic, reasoning and problem solving tasks and, ironically, towards traditionally low skill, in-person service tasks — thus leading to employment polarization.  

To make the point, Autor shows that all 16 countries in the European Union are experiencing the same pattern (see graph below): roughly a tenth of the workforce shifting out of middle-paying jobs to the high- or low-paying categories between 1993 and 2010. (Researchers have found that “middle-skill” and “middle-wage” jobs correlate closely.31) Despite this trend, Autor believes the economy will retain a “significant stratum of middle-skill jobs”32 — jobs that can offer young people that need it an alternative to either a high-skilled job requiring a bachelor’s degree or a low-skill, low-paying job with little future.

![Decrease in share of middle-wage jobs in 16 European Union countries, 1993-2010, in percentage share points](chart.png)
Job redesign and why middle-skill jobs remain vital to young people

In addition to declining in number, middle-skill jobs are continually being redesigned and transformed as well — “pulled up faster,” as Thomas Friedman says and as shown in the (now ancient but still useful) 2010 CNN video, “The New Blue Collar Workers” (4m video). In his latest book about the “age of accelerations,” Thank You for Being Late, Friedman emphasizes that every industry is now “computational” and therefore transforming its workforce, requiring that people vying for middle-skill positions have

…more knowledge and education to perform successfully. To compete for such jobs you will need more of the three Rs — reading, writing, and arithmetic — and more of the four Cs — creativity, collaboration, communication, and [computer] coding.

In addition to jobs being pulled up faster (requiring new, higher skills), Friedman stresses that every job is being pulled apart faster (disaggregated)… pulled out faster (automated, outsourced, and offshored)… and pulled down faster (made obsolete). Furthermore, because change — in this case, job change — is accelerating, Friedman emphasizes that “securing and holding a job requires dynamic stability — you need to keep pedaling (or paddling) all the time” to augment and realign your abilities with evolving job requirements and opportunities.

For numerous young people, an entry-level, middle-skill job is a vital platform from which to build the experience, skills, and education needed to jump to the next level. Each year, for example, one in every seven middle-skill workers transitions to a high-skill position, according to an analysis by the Federal Reserve Bank of Atlanta. This significant job mobility is a testament to the ability of workers to bootstrap their careers! But first they must secure that first job — and the price (and difficulty) of doing so keeps going up. The takeaway for young people and next generation educators? Getting that first middle-skill job can be a crucial first step to advancement, but these jobs are becoming increasingly hard to find.

Pathways to Prosperity: Meeting the Challenges of Preparing Young Americans for the 21st Century, published by the Harvard Graduate School of Education in 2011, argues that we can never be competitive as a nation until we move beyond a one-size-fits-all fixation on college; instead, we need to provide multiple options and pathways that offer every student, as a basic minimum, the knowledge and skills needed for jobs that pay middle-class wages. The Harvard study draws on the two “Forgotten Half” studies that describe the worsening circumstances for more than 20 million non-college-bound youth. Pathways rejects the notion that middle-skill jobs are inherently inferior to those requiring a bachelor’s degree:

In fact, 27 percent of people with postsecondary licenses or certificates — credentials short of an associate’s degree — earn more than the average bachelor’s degree recipient.

Given [the] dismal attainment numbers, a narrowly defined “college for all” goal — one that does not include a much stronger focus on career-oriented programs that lead to occupational credentials — seems doomed to fail.
As we discuss in the next section, education and work experience are an enormous advantage when workforce transformation is afoot, but they are not, by themselves, a defense. All workers — young and old, and at every skill level — need competencies for dynamic stability to continually augment and realign their skills to evolving job requirements and opportunities. The MyWays Project identifies the competencies needed to do so, emphasizing Habits of Success (internal navigation) and Wayfinding Abilities (external navigation), along with broader and deeper Content Knowledge and agile, everyday Creative Know How. See the Part B reports for more information.

We turn now to the education side of the workforce equation.

__This is the first cohort of young adults in which more than half have postsecondary degrees or credentials. But this also means that about half do not.__

—Closing the College Gap

**Postsecondary education and the widening opportunity gap**

“Only 14 percent of 2004 high school graduates from families in the lowest quartile of social and economic status earned a bachelor’s degree or higher and 35 percent received a postsecondary degree or certificate. Thus, among the current cohort of 25- to 34-year-olds, those who came from the most advantaged families earned bachelor’s degrees at more than four times the rate of those who came from the least advantaged families.” [emphasis added]

—Closing the College Gap: A Roadmap to Postsecondary Readiness and Attainment

Although today’s students and parents almost universally accept the importance of at least some postsecondary education, far too few young people are equipped educationally for the labor market’s growing competitiveness. In addition, the most advantaged families are investing heavily in their children’s education, while the least advantaged families face greater challenges with fewer resources. A perfect storm of poor academic preparation, financial pressures, and growing complexity in the postsecondary sector has produced the highest college dropout rate in the industrialized world. As a result, the opportunity gap faced by the nearly half of young people from low-income families — the gap in employment prospects, economic mobility, and access to the American Dream — is widening at an alarming rate.
To understand the cycle that is amplifying the opportunity gap, almost unchecked, we look at five key components (see graphic below). **First**, technological change continues to generate demand for well-educated, high-skill workers while shrinking the availability of middle-skill jobs in the economy (Report 2). **Second**, workers with more education and skills are increasingly rewarded with relatively greater employability and income despite labor pressures on all workers (Report 3). **Third**, as described by Putnam, these economic benefits combine with other societal forces to deepen class and racial segregation and resulting life outcomes for children — including their academic preparedness and their financial and social resources for pursuing postsecondary work (Report 4). **Fourth**, these class-based differences result in profoundly different levels of postsecondary attainment: for example, only 14% of high school graduates from families in the lowest quartile of social and economic status earn a bachelor’s degree compared to 60% from graduates in the highest quartile. **Fifth**, dramatically different levels of postsecondary education for young people of varying social and economic status translates into skill stratification where more educated, more advantaged young people merge with and perpetuate the cycle, while less educated, less advantaged young people are increasingly impeded by labor market trends.

![The opportunity gap is widening at an alarming rate due to the cyclical interaction of five components](image-url)

**Source:** Degree data from Closing the College Gap, p. 8
To better understand the postsecondary attainment patterns contributing to this cycle, we begin with a key 2016 report, *Closing the College Gap: A Roadmap to Postsecondary Readiness and Attainment*, authored by a research team led by Bob Balfanz at Johns Hopkins:

> We wanted to take a dispassionate view of how we are actually doing on the key national priority of postsecondary attainment, on the pipeline from high school to postsecondary education, and on the way forward to boost college readiness, access, and persistence in the future. **We find reasons for hope and cause for alarm.**[^1] [emphasis added]

Balfanz’s team studied three cohorts: people who were currently 25–34 years old, those currently in postsecondary education or finishing high school, and those currently in grades 1–10.

*Closing the College Gap* offers the following table and snapshot of how today’s 25–34 year olds compare to older Americans:

<table>
<thead>
<tr>
<th>Current levels of postsecondary attainment</th>
<th>25–34 years old</th>
<th>65+ years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate degree or more</td>
<td>47%</td>
<td>34%</td>
</tr>
<tr>
<td>Bachelor’s degree or more</td>
<td>36%</td>
<td>27%</td>
</tr>
</tbody>
</table>

*Source: Closing the College Gap. 2016.*

The current generation of 25- to 34-year-olds has the highest rate of postsecondary degree attainment in the nation’s history and considerably higher levels than earlier generations. Whereas about one-third of 25- to 34-year-olds in the late 1960s and early 1970s earned an associate degree or higher, close to half of today’s 25- to 34-year-olds do so. When you add in high quality certificates, *this is the first cohort of young adults in which more than half have postsecondary degrees or credentials. But this also means that about half do not.*

Between 2000 and 2014, when this first cohort was finishing postsecondary education, the nation witnessed a 77 percent increase in associate degrees and a 51 percent increase in bachelor’s degrees, with more than one million additional such degrees earned during this period. Women, particularly those from upper-income families, have driven much of the growth in postsecondary attainment, while attainment rates of students of color and low-income students have climbed, but not as steeply.

Despite this progress, **significant postsecondary attainment gaps for this first cohort persist:** women outpaced men by 9 percentage points in attaining an associate degree or higher; the White-Black attainment gap stands at 15 percentage points; and the White-Latino degree attainment gap remains at 30 percentage points.[^2] [emphasis added]
Most attainment gains are occurring among whites and upper-income families. As the following shows, degree attainment among whites is approximately double that of blacks and Hispanics:

<table>
<thead>
<tr>
<th>Percent of 25- to 34-year-olds with an associate’s degree or higher</th>
<th>Associate degree or higher</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic white</td>
<td>54.7%</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>32.3%</td>
<td>22.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>24.7%</td>
<td>30.0</td>
</tr>
</tbody>
</table>

Source: Closing the College Gap. 2016.

Furthermore, as the study explains, the gaps are even bigger at the bachelor’s degree level and between high- and low-income families:

The Educational Longitudinal Study of 2002 shows that within eight years of high school graduation 60 percent of the students from the high school class of 2004 who came from families with high social and economic status (the top quartile) earned a bachelor’s degree or higher and 72 percent received a postsecondary certificate or degree. By contrast, only 14 percent of 2004 high school graduates from families in the lowest quartile of social and economic status earned a bachelor’s degree or higher and 35 percent received a postsecondary degree or certificate. Thus, among the current cohort of 25- to 34-year-olds, those who came from the most advantaged families earned bachelor’s degrees at more than four times the rate of those who came from the least advantaged families. Moreover, where nearly three-quarters of those from the most advantaged families earned a postsecondary degree or credential, just a little more than a third from the least advantaged families did so. [emphasis added]

Analyzing census data and two longitudinal surveys that followed young adults in different time periods, Dynarski and Bailey (2011) bring the historical and current trends in postsecondary degree attainment together. They find:

…growing gaps between children from high- and low-income families in college entry, persistence, and graduation. Rates of college completion increased by only four percentage points for low-income cohorts born around 1980 relative to cohorts born in the early 1960s, but by 18 percentage points for corresponding cohorts who grew up in high-income families. Among men, inequality in educational attainment has increased slightly since the early 1980s. But among women, inequality in educational attainment has risen sharply, driven by increases in the education of the daughters of high-income parents.43

Among the second cohort of those currently in postsecondary education or finishing high school, the Balfanz team sees moderate progress: high school graduation rates have risen, driven by Latino and black students, and postsecondary enrollment is also up, including a doubling among Latino students and a near
doubling among black students between 2000 and 2014.\textsuperscript{44} Despite these hopeful signs, the opportunity gap continues to widen as a result of the much higher graduation rates among students from the most advantaged families.

Finally, the study team is most worried about the third cohort of young adults, who are in 1st through 10th grades today:

Without some significant actions all along the postsecondary pipeline, the rising tide of progress being experienced by our second cohort — the 25- to 34-year-olds of 2025 — will ebb. To ensure postsecondary attainment rates continue to rise and opportunity gaps narrow, the nation will need to solve some big challenges: 1) reforming and supporting the approximately 800–1,000 low-graduation-rate high schools in economically and socially isolated areas of the country where disproportionately large numbers of Black and Latino students are still found; 2) providing greater access to postsecondary institutions, particularly in Latino and low-education-attainment communities; and 3) redoubling efforts around postsecondary readiness and persistence for those students graduating with low GPAs. \textbf{The quick wins and modest lifts have already been tapped.} To keep postsecondary attainment rates rising, the nation will need to make major commitments and investments to reach and provide opportunity to all students.\textsuperscript{45} [emphasis added]

These data reveal that, even as the nation makes painfully slow progress in raising high school graduation rates and closing achievement gaps at the K-12 level, we have what can only be described as runaway, widening gaps at the postsecondary level, driven by the broadly recognized importance of education beyond high school combined with dramatically different postsecondary options that are financially available to students and families in different socioeconomic groups.

\textbf{Anthony Carnevale} and \textbf{David Leonhardt} have both written of the profoundly “separate and unequal system of higher education” that exists today. At the 500 top universities, where half of all white students have converged, 82\% graduate. In contrast, at open-access colleges, attended by a large portion of students of color and low-income students, just 49\% graduate.\textsuperscript{46} We look further at the differences in the postsecondary experiences of the most- and least-advantaged students in Report 3, \textit{5 Decisions in Navigating the Work/Learn Landscape}. The bottom line, however, is that employment opportunities are migrating toward those with greater education and skills, and therefore, toward those in the most advantaged families. Accordingly, \textbf{economic mobility is at great risk,} unless society acts to help all students develop not only greater academic preparedness for postsecondary work, but also the knowledge, experience, and competencies to navigate more effectively their individual circumstances as well as the now typically concurrent goals of postsecondary education and early employment.

In fact, most postsecondary students today are “learning while earning,” a practice we examine next.
“Learning while earning” — the student response to the opportunity gap

In Learning While Earning: The New Normal, Carnevale and his team at Georgetown’s Center on Education and the Workforce quantify another significant aspect of the opportunity gap today: the preponderance of students pursuing postsecondary credentials while working:

For decades, the popular conception of a college student in this country has been the full-time residential, financially dependent student who enrolls in a four-year college immediately after graduating from high school. But that student has not been the norm at US postsecondary institutions for more than 30 years. Such students exist, but they are greatly outnumbered by working learners: students who balance learning in college with earning a paycheck.

In the United States today, nearly 14 million people — 8 percent of the total labor force and a consistent 70 percent to 80 percent of college students — are both active in the labor market and formally enrolled in some form of postsecondary education or training. As these findings show, “learning while earning” is, in fact, the new normal — despite the bleak youth employment picture and the danger of work hurting academic performance. The upside is the potential for the right work experiences to help young people validate their worth, gain workplace skills and experience, and accrue coworkers, role models, and mentors. Still, the opportunity gap between the least- and most-advantaged students is widening, and accelerating, during the postsecondary years. A new form of student preparation is needed.

Key findings from Learning While Earning: The New Normal

Following is a summary of the Center on Education and the Workforce report:

- **Most postsecondary students are working.** Students are workers, and workers are students. Whenever possible, students work whether they are in high school or college; whether they are rich, poor, or somewhere in between; and whether they are young and inexperienced or mature and experienced.

- **Going to college and working while doing so is better than going straight to work after high school.** Our findings show clearly that students who complete college degrees while working are more likely, over time, to transition to managerial positions with higher wages than people who go straight into full-time work after high school.

- **Working and learning simultaneously has benefits, especially when students work in jobs related to what they study.** Work experience also becomes an asset that working learners carry with them as they enter the full-time job market, accelerating their launch into full-time careers. The jobs that individuals perform are a central part of their identity.

- **Working while attending college hurts disadvantaged students the most.** This is because working learners of lower socioeconomic status are more likely to work full-time and attend under-resourced, open-admission community colleges. (Ready by 21 states: “Studies have shown that students who work more than 20 hours a week often have lower grades, take more time to complete their degrees, and have more mental health problems.”)

- **A significant number are working full-time while in college.** About 40% of undergraduates and 76% of graduate students work at least 30 hours a week. About 25% of all working learners are simultaneously employed full-time and enrolled in college full-time. Adding to their stress, about 19% of all working learners have children.

- **Students are working and taking out more loans to pay for college.** The nation has yet to figure out how to pay for this new stage in the transition from youth dependency to adult independence and family.
Preparing students for a new phase of life: the wayfinding decade

“Today, the journey from adolescence to adulthood is far more daunting. It takes much longer, and the roadway is filled with far more potholes, one-way streets, and dead ends.”

— Pathways to Prosperity

The challenge for next generation education is two-fold: to prepare all students for the rough-and-tumble passage to work and the complexity of today’s postsecondary experience, and to ensure that less advantaged students have the supports and systems they need to have at least a fair — if not equal — opportunity to overcome the disadvantages of their circumstance and compete for a share of the American Dream. At one time, both parts of this challenge could be interpreted in narrow, traditional academic terms. No more. As Thomas Friedman says, “The three largest forces on the planet — technology, globalization, and climate change — are all accelerating at once.” As Robert Halpern observes, “Too many [young people] are caught in a gale of creative destruction that makes it difficult to find individual solutions to changing economic realities.”

Let’s consider the implications of these accelerations on students and their teachers. In Thank You for Being Late, Friedman shares a sketch by Eric Teller, CEO of the Google X research and development lab:

Teller posits that we are at the “We are here” point where technological change exceeds human adaptability and continues to accelerate. As we describe in the reports that follow, these forces are reverberating through the labor market (Report 2), the postsecondary experience (Report 3), and society’s patterns of relationships and social capital (Report 4). Further, these changes are so profound that adolescence itself will need to evolve and adapt (Report 5).

If we cannot slow down technology, globalization, and climate change, our only remaining option is to improve human adaptability by helping individuals, families, and institutions (including schools and all other youth-facing organizations) be more agile, resilient, and entrepreneurial.
The first step, we believe, is recognizing that the *wayfinding decade* between high school and established, successful adulthood is longer, tougher, and less linear than it has ever been. The labor market is constrained and dizzying; half of under-30s will spend considerable time in the gig economy or other short-term, on-demand positions. The postsecondary world is dividing, morphing, and evolving; options are hard to evaluate and compare; most students are working learners; and financial pressures are often disruptive. Navigating this new *work/learn landscape* involves complex, high-stakes, life-defining decisions that begin in high school. Few high schoolers have the life experience or broader, deeper competencies to fully understand, let alone make, these decisions.

The MyWays team coined the terms *wayfinding decade* and *work/learn landscape* to help replace the *college readiness mindset* with a fuller, more complete *work/learn readiness mindset*. The “wayfinding decade” is an intentionally imprecise term with respect to starting age and duration; it differs for each individual according to circumstances, aspirations, and work/learn experiences. Still, common patterns exist. Most schools and districts are organized around a three-part track (see A1 in the diagram below).

**The A1 track — this intended scenario for achieving work/learn readiness rarely works**

The goal in the first part of this three-part track, from birth to age 5 or so, is *kindergarten readiness* (age-appropriate development and quality early learning). In the second part, from roughly age 6 to 18, the focus is on *college readiness* (academic preparedness and what we might call “college literacy” — that is,
picking colleges, applying, and figuring out finances). Across the country, only a minority of students receive meaningful career-related experiences during this K-12 period. Nevertheless, the assumption seems to be that in the third part of this track, between age 18 and perhaps 22, students’ early experiences in college or work will allow them to develop the full work/learn readiness needed to forge a gainful career from their postsecondary and early employment options. A career-oriented college program, fortuitous part-time job, or an extracurricular with real-world experience might foster some readiness, but too often lessons learned come from the school of hard knocks.

The A2 extended track — for many students, work/learn readiness may take another decade
For many students inadequately prepared before they leave high school for navigating postsecondary education and the labor market, the wayfinding decade extends into their late twenties or early thirties. Despite most postsecondary students being working learners, the years in college and immediately following are often a struggle to assemble the work experience, skills, credentials, and social connections that translate into a fruitful career path. Of course, finding a fit takes time even with the best preparation, but too often students lose precious time in unproductive postsecondary programs and dead-end jobs.

The A3 breakdown — over half of US students fall behind and face increasingly poor options
The A1 and A2 tracks of most K-12 systems have a much more catastrophic variant: they are both inaccessible to the majority of all public school students who fall behind and end up traveling a much rougher path. These students falter due to inadequate preparation in two key readiness areas. First, due to poverty or personal circumstance, many students lack kindergarten readiness when they enter the school system. Second, in K-12, their level of academic preparation and college literacy leave them far short of college readiness; indeed, according to Closing the College Gap, only one-third of US students are academically prepared for college. On this A3 path, high school ends with little or no work/learn readiness, and these students are thrust, by necessity, into the heat of the work/learn landscape, attempting to figure out what to do next. Can they find work? Should they enroll in a four-year college, a community college, or a certificate program? How will they support themselves and advance their skill building? Who can they call on for support, advice, connections, and resources?

Students on this A3 path struggle to make life-defining decisions at age 16, 18, or 20. And, often, it is only when they fail that society pays attention. In this age of accelerations, the status quo for more than half our students is a national disaster. A 2009 study by McKinsey & Company found that this underutilization of human potential imposes “the economic equivalent of a permanent national recession.”

The new, next generation B track — a call to get all students work/learn ready by their late teens
As a nation, we need to migrate, quickly, to a new track — something like the B track in the diagram — that can get all students work/learn ready by their late teens. A shift to broader, deeper competencies like those in the MyWays Student Success Framework (Report 6) is part of the solution, but we also need to better understand work/learn readiness today (as opposed to what it looked like 10, 20, or 30 years ago), reduce adolescent isolation (Report 5), and provide more authentic, real-world experiences (Report 11). To help educators with this understanding, the MyWays team developed what we call the 5-5-5 Realities.
Understanding work/learn readiness through the 5-5-5 Realities

The worsening environment for young college graduates and nongraduates alike injected the MyWays Project with a special urgency to go beyond loosely defined “21st century skills” and to dig into the specific trends and challenges young people are facing — to clearly describe the real-world conditions that our students will need to address (see question 1 of the four-part MyWays Through-line). We distilled our research into the 5-5-5 Realities, highlighting for educators (and others, including students) 15 key factors and trends that all young people are likely to confront during their wayfinding decade. We define being “work/learn ready” as understanding these Realities and being equipped with the competencies and experience needed to address them. The 5-5-5 Realities are as follows:

5 Roadblocks to Bootstrapping a Career (Report 2)
As employers pull back on developing human talent — investing instead in technology, automation, and an on-demand workforce — young workers face an increasingly challenging labor market. Job hunting has also grown increasingly complex as algorithmic, online hiring systems seek “perfect” candidates with pre-existing experience and competencies.

5 Decisions in Navigating the Work/Learn Landscape (Report 3)
The age of accelerations is transforming postsecondary education, with a tripling in the number of career fields, a doubling in colleges and universities, and a five-fold increase in postsecondary programs of study. Costs and student debt are skyrocketing. Most students are working learners, and most need to build social capital to gird their work/learn journey.

5 Essentials in Building Social Capital (Report 4)
Opportunities are firmly attached to relationships. While social capital is traditionally weak among young people in general, growing class segregation is creating a social capital crisis for less advantaged students. A key part of the wayfinding decade is securing social support, developmental relationships, and connections to resources through five types of social capital: caring friends & adults, near-peers & role models, mentors & coaches, networks & weak ties, and resources & connectors.

As the graphic below shows, to achieve better outcomes for young people — especially better degree attainment and gainful employment — we must target improved education, pathways, and opportunities using the 5 Roadblocks, 5 Decisions, and 5 Essentials described in the following reports. While these Realities apply to every young person, they are doubly critical for low-income students and students of color, and they are the leading causes of the nation’s widening opportunity gap. We hope these Realities will also become a useful checklist against which to evaluate and compare programs and approaches in next generation learning.
Finally, the research behind the 5-5-5 Realities led to an examination of American adolescence today and the nature of the passage from childhood to adulthood in the current age of accelerations. That inquiry led us to Robert Halpern’s remarkable book, *Youth, Education, and the Role of Society*, and to the contributions of Reed Larson, Daniel Siegel, Laurence Steinberg, and Robert Epstein, as well as the Forum for Youth Investment, the Center for Promise (the research arm of America’s Promise), Jobs for the Future, and others. The consensus among these scholars is that adolescence as an institution of American society is adapting and evolving too slowly in response to the rapid changes in the world of work and learning. *We need to reduce adolescent isolation from the adult world; respect and support young people as apprentice-adults; and provide them with the environments and experiences needed to grow, mature, and navigate the adult learning and working world.* Accordingly, we dedicate the final report of Part A, “Adolescence in an Age of Accelerations,” to adolescence itself:

**Preparing Apprentice-Adults for Life after High School (Report 5)**

Research on the teenage brain reveals adolescence as a period of incredible growth and potential — in the brain and in the person as a whole. As a result, we examine developmental tasks that are key to a healthy life and to successfully navigating the work/learn landscape: *reclaiming the potential of the adolescent years; finding self, strengths, and direction; acquiring capability and agency; overcoming trauma and personal challenges; and building relationships and social capital.*
Young people in the age of accelerations will not have an easy journey during their wayfinding decade, but if properly prepared, extraordinary opportunities will emerge.

**Connecting the 5-5-5 Realities to the MyWays competencies**

The MyWays Student Success Framework repeatedly highlights the challenges of the 5-5-5 Realities and the wayfinding decade. More than any other competency framework we know, it advocates a specific set of Wayfinding Abilities to successfully navigate work, learning, and life opportunities and choices. However, Wayfinding Abilities do not stand as independent skills; instead, educators should consider the entire set of 20 MyWays competencies and the ways Wayfinding Abilities are complemented by and dependent upon personal Habits of Success, solution-oriented Creative Know How, and deeper Content Knowledge.

Brief summaries of the MyWays framework and competencies, and their research origins, can be found in two documents: the *Visual Summary of the MyWays Student Success Series* and the *Introduction and Overview of the MyWays Student Success Series*.

A full description of the MyWays framework and competencies is provided in Part B, “Broader, Deeper Competencies for Student Success,” which answers the second question in the MyWays Through-line: *WHAT does success looks like for our students in an age of accelerations?* Part B is comprised of Report 6, *Welcome to the MyWays Student Success Framework* as well as individual reports on each of the four competency domains (Reports 7–10), which discuss the importance of each domain, its competencies and key principles, the state of play in the field, and educator resources. For each of the 20 competencies, a one-page primer is also provided.

The reports in Part C, “Redesigning the Learning Experience for the MyWays Competencies,” discuss how to bring broader, deeper competencies into educational practice through more authentic, real-world learning, focusing on key constructs for learning design and assessment design. Report 11 examines *Learning Design for Broader, Deeper Competencies*, including utilizing Whole Learning at a junior level, harnessing the Wider Learning Ecosystem, and applying research-based Levers for Capability and Agency. Report 12 looks at *Assessment Design for Broader, Deeper Competencies* including two needed paradigm shifts and five assessment strategies. These two reports summarize our research findings and constructs with respect to the third and fourth questions in the through-line: *HOW can our design for learning help students develop the broader, deeper competencies?* And: *HOW do we gauge student progress in developing these competencies?*
Key takeaways for next generation educators

At the end of each report in Part A, we briefly recap the report and offer several key takeaways.

**Takeaway 1:** The vast majority of real-world conditions that today’s young people face in the wayfinding decade apply to students of all socioeconomic levels and racial/ethnic groups; however, the severity, timing, and resource needs related to these conditions impact different groups in profoundly different ways. All students need preparation for the 5-5-5 Realities, and all students need broader, deeper competencies such as those outlined in the MyWays Student Success Framework. This is equally true for gifted, affluent, college-bound students and students from poor, disadvantaged families who have to go straight to work or consider a short-term certificate program. For millions of disadvantaged students, the hurdles are much higher, and the consequences of being unprepared for these Realities are much greater.

**Takeaway 2:** We need to pivot from a narrow “college-for-all” mentality to an “invest in skills” approach aimed at equipping every student with a reachable employment opportunity and the competencies they need to direct their own lifelong learning. The tug-of-war between “college-bound” and “career and technical education” should be put aside. Students need both. Work experience is critically important to all, and a college degree is no longer the “golden ticket” that all but guarantees stable employment and a middle-class income. The old thinking, as Thomas Friedman says, needs to change:

> We go to school for twelve or more years during our childhoods and early adulthoods, and then we’re done. But when the pace of change gets this fast, the only way to retain a lifelong working capacity is to engage in lifelong learning.
Takeaway 3: No American institution currently “owns” the task of taming the work/learn landscape beyond high school. It can be a wild, dangerous place, and the chaos and confusion is causing irreparable harm to countless young people. As we noted earlier, the United States has the highest college dropout rate in the world, and our underutilization of human potential imposes the economic equivalent of a permanent recession. Education, business, and government institutions must work together to envision and create education, pathways, and opportunities appropriate to the labor market, postsecondary programs, and social capital needs and patterns in their regions. We use the term “pathway” broadly to describe structures and systems that help guide young people’s transitions through the work/learn landscape and will return to this theme in later reports.

Takeaway 4: Schools and districts cannot do this work alone, but they must be the leaders and catalysts for the kind of collective initiative the work requires. Innovation is occurring on two fronts: the efforts of individual schools and organizations, and the efforts of groups of organizations that are working together. There are many terrific examples of both, and we describe some of them throughout these reports. As the primary institution in students’ lives until they reach age 18 and begin the wayfinding decade, schools can play a pivotal role in driving both individual and collective innovation. A logical starting point is determining what changes in education, pathways, and opportunities students need before they turn 18, and what changes in opportunity pathways they need once they have left the K-12 system and are largely independent actors in the work/learn landscape.

Next, in Report 2, we cover today’s labor market and the 5 Roadblocks to Bootstrapping a Career.
Endnotes for Report 1


2 Howard Gardner (in The Disciplined Mind) argues that students “[n]eed an education that is deeply rooted in . . . what is known about the human condition, in its timeless aspects, and what is known about the pressures, challenges and opportunities of the contemporary and coming scene. Without this double anchoring, we are doomed to an education that is dated, partial, naïve, and inadequate.” Quoted in an article by the RAND Corporation’s Anna Rosefsky Saavedra and V. Darleen Opfer, *Teaching and Learning 21st Century Skills: Lessons from the Learning Sciences*, Center for Global Education, The Asia Society, April 2012, p. 9.


4 The importance of high school education in this prosperity is chronicled in Claudia Goldin and Lawrence Katz’s book, *The Race between Education and Technology* (Harvard University Press, 2010); Putnam also profiles economic data then and now in *Our Kids: The American Dream in Crisis* (above).

5 Putnam, *Our Kids*, p. 32.

6 Ibid., p. 32.


11 Ibid., p. 6.


21 Steinberg, “America’s 10 Million Unemployed Youth,” p. 6.


34 Ibid., p. 211.


36 Ellie Terry and John Robertson, *For Middle-Skill Occupations, Where Have All the Workers Gone?* Federal Reserve Bank of Atlanta, November 20, 2014.


40 Organization for Economic Development and Cooperation, as cited in *Pathways to Prosperity*, p. 13; see Report 3 of the MyWays report series for more information.

41 Balfanz et al., *Closing the College Gap*, p. 1.

42 Ibid., p. 1.

43 Ibid., p. 8.

44 Ibid., p. 1.


50 Symonds et al., *Pathways to Prosperity*, p. 12.


52 See Report 3 for a more complete discussion of academic preparedness.


54 Friedman, *Thank You for Being Late*, p. 33.
5 Roadblocks to Bootstrapping a Career

Report 2 of the MyWays Student Success Series

October 2017

Dave Lash and Grace Belfiore
for Next Generation Learning Challenges
Report 2, *5 Roadblocks to Bootstrapping a Career*, probes five specific challenges facing young people as employers pull back on developing human talent — investing instead in technology, automation, and an on-demand workforce. Young job hunters must also contend with increasingly complex and impersonal online hiring systems that seek “perfect” candidates with pre-existing experience and competencies.

Report 2 is the second of five reports in Part A of the MyWays Student Success Series. Part A, “Adolescence in an Age of Accelerations,” analyzes the real-world changes and conditions that are most acutely impacting young people and outlines key developmental tasks of the adolescent years.

The *MyWays Student Success Series* examines the through-line of four essential questions for next generation learning and provides research and practice-based support to help school designers and educators to answer these questions. The series consists of 12 reports organized into three parts, plus a Visual Summary and Introduction and Overview.

The primary researchers and authors of the *MyWays Student Success Series* are Dave Lash, Principal at Dave Lash & Company, and Grace Belfiore, D.Phil., Principal Consultant at Belfiore Education Consulting.

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REPORT 2

5 Roadblocks to Bootstrapping a Career

Why is the current labor market so difficult for young people? Our research revealed 5 Roadblocks that new entrants must overcome — roadblocks reflecting the more complex human ecosystem that the labor market has become. These roadblocks require both new, nontraditional competencies, such as those described in the MyWays Student Success Framework, and new, nontraditional systems for developing those competencies.

The 5 Roadblocks are:

1. A chronically weak labor market
2. The accelerating pace of automation
3. The hard shift to an on-demand workforce
4. A bias for hiring experience over potential
5. The job-hunting labyrinth

Key reading

Why Good People Can’t Get Jobs
by Peter Cappelli

The Class of 2015: Despite an Improving Economy, Young Grads Still Face an Uphill Climb
from the Economic Policy Institute


The Second Machine Age
by Erik Brynjolfsson and Andrew McAfee
**ROADBLOCK 1. A chronically weak labor market**

“Young workers always experience disproportionate increases in unemployment during periods of labor market weakness — and the Great Recession and its aftermath is the longest, most severe period of economic weakness in more than seven decades.”

—Economic Policy Institute, “The Class of 2015” ¹

Ten million Americans under the age of 25 are unable to find full-time work, a number considerably greater than the 8.5 million total workers who lost their jobs during the Great Recession.² That is a shocking statistic. And, while there are four million more jobs today than before the recession started in December 2007, each year the economy adds only half the jobs needed to offset labor population growth and the jobs lost to productivity gains.³

This imbalance sets off a chain of negatives: underemployment, stagnant or falling wages and benefits, poor working conditions, and prime-age Americans — those 25–54 years old — who are neither working nor looking for work.

Sadly, anemic job creation is not a new or temporary trend, and it has been getting worse for five decades, as Martin Ford explains in *Rise of the Robots*:

> Over the past half-century, the US economy has become progressively less effective at creating new jobs. Only the 1990s managed to — just barely — keep up with the previous decade’s job growth, and that was largely due to the technology boom that occurred in the second half of the decade. The recession that began in December 2007 and the ensuing financial crisis were a total disaster for job creation in the 2000s; the decade ended with virtually the same number of jobs that had existed in December 1999. Even before the Great Recession hit, however, the new century’s first decade was already on track to produce by far the worst percentage growth and employment since World War II.⁴

As a result, following the recessions of 1990, 2001, and 2008, the nation experienced long “jobless recoveries” that required 31, 46, and 76 months, respectively, to regain prerecession job levels.⁵ Consider for a moment the difficulties students face when attempting to enter the labor market during one of these recessions or prolonged, multi-year “recoveries.”

Slow job creation creates a growing divergence between the working-age population and jobs. Andrew McAfee at MIT’s Center for Digital Business projects, in this graph, even greater divergence over the coming decades and warns that the jobs projection could be much worse.⁶ One of the truest barometers of employment equilibrium is the share of prime-age workers
who are unemployed or out of the workforce altogether. Because women’s participation in the workforce has been variable, growing substantially over the past 50 years, researchers typically use male employment data to study long-term labor trends. In the 1950s and 1960s, about 9% of men ages 25–64 were unemployed or out of the workforce; today that figure has doubled: nearly one in five prime-age men is without work.⁷ Lest one assume that this trend is primarily a product of the Great Recession, the share of inactive men has increased as much in the recovery as during the recession itself.⁸

Globalization, technological innovation, and Wall Street’s relentless push for profits have driven corporate profits to their highest share of national income in more than half a century, while labor’s share has sunk to its lowest level since 1929. Lawrence Katz, economist and co-author of The Race between Education and Technology, remarks: “for as long as we’ve had a modern economy, this is the worst we’ve seen it.”⁹

The result is an economy that has become inhospitable to students attempting to enter the workforce. Corporations’ relentless drive to reduce costs—including labor costs—has fueled organizational flattening, outsourcing, offshoring, automation, and myriad other labor-reducing initiatives that are part of what economist Joseph Schumpeter calls the natural productivity-seeking cycle of “creative destruction” in the economy. Increasingly, layoffs during recessions are permanent as corporations shift to temporary and contract workers; further, in the recent recession, many middle-skill jobs were automated or replaced by lower-skill, lower-wage jobs.¹⁰ MIT labor economist David Autor has called this hollowing out of middle-wage jobs, labor polarization.

Historically, job losses caused by creative destruction within established firms have been offset by the golden goose of the American economy: the millions of jobs created each year by new businesses. Unfortunately, new business creation in each of the 50 states has been declining since the 1980s. Furthermore, the average number of people each new business employs has fallen from eight in the 1990s to fewer than six.¹¹ (For more on jobs and the economy, see Chart Book: The Legacy of the Great Recession.)

A report by the McKinsey & Company consulting firm emphasizes the hardship that long-term job shortage inflicts on workers:

Weak job creation and jobless recoveries have negative effects on individual workers, their families, communities, the overall quality of the labor force—and, inevitably, on society. An extended period of unemployment measurably lowers health outcomes and lifetime earnings; a worker who returns to work after long-term unemployment will earn 20 percent less over the next 15 to 20 years than a worker who was continuously employed . . . . [Furthermore] workers who shuttle from one part-time job to another as they piece together a full-time paycheck will be outside the traditional employer-based benefits system.¹²
In chronically weak labor markets, employers have enormous leverage that puts young Americans behind the eight ball. A surplus of experienced adult workers forces many young Americans to the end of a long, long hiring line. Those with college degrees frequently bump those without degrees, even for low-paying jobs that do not require a degree. Temporary and part-time jobs are increasingly the norm. The very process of hiring puts young people at a disadvantage. Each of these roadblocks is examined in the following pages.

**How the weak labor market roadblock impacts students**

This first roadblock — a chronically weak labor market — means that students face competition from the outset to muscle their way into the workplace. They need to be informed constructively about the new work environment and their options and possibilities. They need a map of promising job sectors and a survival plan for working when a full-time job isn’t available. They need early work experience and on-ramps that employers will value.

Students also need to understand how technology and automation enable revolutionary changes in the way workers work and organizations organize. As McKinsey emphasizes, technology makes it possible for companies to design work and manage labor in whole new ways. As we now describe, automation is accelerating; many economists and technologists believe that understanding automation and how to work with smart machines in a complementary way will be increasingly important to holding a job.

**ROADBLOCK 2. The accelerating pace of automation**

> “The 'message' of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs.”

—Marshall McLuhan, *Understanding Media*

In 1998, US workers in the private sector worked 194 billion hours. Over the following 15 years, inflation-adjusted business output increased by 43% while the hours required to produce this much-larger output remained unchanged…194 billion hours. Fifteen years of economic growth with no increase in labor! Few Americans comprehend the “modern day Cambrian explosion” of automation that is underway — or the impact it will have on the economy, the workforce, and the lives of today’s students. MIT’s Erik Brynjolfsson and Andrew McAfee sum up the stakes for current and future workers:
Technological progress is going to leave behind some people, perhaps even a lot of people, as it races ahead…[T]here’s never been a better time to be a worker with special skills or the right education, because these people can use technology to create and capture value. However, there’s never been a worse time to be a worker with only “ordinary” skills and abilities to offer, because computers, robots, and other digital technologies are acquiring these skills and abilities at an extraordinary rate.\(^{17}\)

It is the pace of this change that is most troubling, and evidence shows that these job disruptions hit young workers — who have yet to acquire mature skills and experience — particularly hard.\(^{18}\)

In an attempt to understand how automation and artificial intelligence (see graphic below) might shape the labor market in the coming decade and beyond, and which student competencies might be needed to adapt to rising automation, we studied the work of labor economists, technologists, and business historians. Three books provide excellent overviews: *The Second Machine Age*, *Humans Need Not Apply*, and *Rise of the Robots*. Our goal in this section is to give next generation educators a primer on some of the key trends and principles that are driving this change. We also include a playlist of videos that demonstrate science fiction novelist William Gibson’s famous quote: “The future is already here; it’s just not very evenly distributed.”\(^{19}\)

The migration of jobs from agriculture to manufacturing to services to...to...to...?

At the birth of our nation, farms employed 80% of US workers. By 1900, farm mechanization had cut that number in half to 40%, and today it is less than 2% and continues to fall as artificial intelligence and other digital technologies enable new methods for planting, fertilizing, weeding, and harvesting.\(^{20}\)

As agricultural jobs declined, manufacturing and services took up much of the slack. By the 1950s, one-third of the workforce was employed in manufacturing compared to just one-tenth today. (Services, discussed below, comprised 42% in the mid-1950s.) Over the past 60 years, US manufacturing output, and output per worker, have both risen over 400% (see left and middle graphs below). Manufacturing jobs, however, have shrunk 37% from the peak in 1979 (see right graph). Over those 60 years, and
especially in the past 20 years, automation, offshoring, and employee training have made manufacturing far more efficient, with the result that fewer US workers are employed in manufacturing today than in 1950!\(^{21}\) Erik Brynjolfsson believes productivity is becoming decoupled from jobs in this “second machine age” as enormously powerful computing merges with increasingly sophisticated “mechanical muscles.”\(^{22}\) (Lest one think this is solely a US phenomenon, manufacturing employment is falling worldwide, even in China and other low-cost labor economies.)

With the shrinking of agricultural and manufacturing employment, services today account for nearly 70% of US jobs, while government employment accounts for another 20%. The good news is that services is a highly diversified sector spanning retail, transportation, technology, construction, health care, education, and business services. That said, automation is accelerating in virtually every subsector of the services industry. In the past, automation has been offset by expanded employment in other parts of the economy; however, that is not the current trend. Further, the impact is not only on repetitious low-skill and middle-skill jobs; high-skill occupations — including law, radiology, and IT — are also being affected. This time, there is not a new labor-intensive sector dawning. Although some labor economists like James Bessen predict that, as in the past, new employment opportunities will be created,\(^{23}\) it appears that those economists, technologists, and business analysts closest to the fields of automation, robotics, and artificial intelligence are the most alarmed by the potential scale of job disruption that lies ahead.

Here are some indicators of the automation-driven change that is underway:

- Fifty years ago, AT&T was the nation’s most valuable company, worth $267 billion in today’s dollars and employing more than 750,000 people. Today’s comparable giant, Google (Alphabet), is valued at $650 billion but has only 55,000 employees.\(^{24}\)

- Today’s largest bricks-and-mortar retailer, Walmart, employs about five people for every $1 million in sales. By contrast, Amazon, the largest online retailer, employs just over one employee for the same $1 million in sales. In other words, as Jerry Kaplan points out in *Humans Need Not Apply*, “for every $1 million in sales that shift from Walmart to Amazon, four jobs are potentially lost.”\(^{25}\)
• In its heyday just 10 years ago, the video renter Blockbuster required seven employees per store. Today, Redbox employs seven employees to service every 200 self-service video kiosks. Taking self-service to another level, Netflix serves 74 million subscribers in more than 40 countries with its streaming and DVD-by-mail, employing just 2,189 people in 2014.26

• The self-service technologies that enabled the Blockbuster-Redbox-Netflix shifts and labor efficiencies are now ubiquitous across the consumer world in streaming music services, ATMs, online banking, self-ticketing websites, automated highway tolls — even your state’s motor vehicle registry. Where there once were 30 human cashiers per supermarket, today there might be one human supervising 30 cashier robots.27 Self-service tax software such as TurboTax has resulted in the loss of 17% of tax preparer jobs28 — losses that may accelerate with IBM Watson entering the field in 2017.

• Office technologies, including email and cell phones, have resulted in the loss of 2.5 million administrative support jobs since 2000.29 IT functions in organizations are increasingly automated and based off-site in the cloud; Facebook and other cloud-based firms, for example, use smart software applications to manage and repair tens of thousands of servers autonomously. In describing the efficiencies of cloud-based IT, Martin Ford in Rise of the Robots uses the example of Good Data, a small San Francisco analytics company. Good Data uses Amazon’s cloud services to perform tasks for approximately 6,000 clients — tasks were previously done in-house by about five workers per client, for a total of about 30,000 workers. Good Data does the same work with 180 employees.30

Many of these examples involve the automation of routine tasks. Increasingly, however, as automation and artificial intelligence become more powerful and sophisticated, any predictable work done by humans is a potential labor-saving target. For example, much of the work traditionally done by junior lawyers and paralegals is now performed by incredibly smart e-discovery software that can analyze millions of documents in a court case. Software bots are increasingly interpreting medical imaging, writing technical articles from raw data, and grading student essays. And, with computing speed and capacity continuing to climb exponentially per Moore’s Law, the power of these systems is accelerating.

Because the automation roadblock is so potentially significant for students, we believe every next generation educator should educate themselves on these trends so that they, in turn, can educate their students. To help this process, we developed a playlist of automation-related videos that vividly illustrate where these systems are today and where the labor market is headed. Explore with us Amazon’s automated warehouses and delivery drones, the automated pharmacies and autonomous vehicles, and the smartest machine ever built — IBM Watson — which is currently employed by more than 500 businesses and is coming soon to your smartphone. Through these videos, you will hear leading voices discussing the new world of work that today’s students will encounter.
A MyWays video playlist about automation and the future of work

**Introductory videos**

- **PBS NewsHour: Do labor-saving robots spell doom for American workers?**
  Interview with Jerry Kaplan, technologist, entrepreneur, and author of *Humans Need Not Apply*. Examples of emerging automation, productivity gains, and labor losses.

- **60 Minutes: Are robots hurting job growth?**
  Self-service technologies. Heavily automated warehouses. Hospital “tugs.” Automated pharmacies. Technological unemployment discussed with Erik Brynjolfsson and Andrew McAfee, authors of *The Second Machine Age*.

- **CGP Grey: Humans need not apply**
  The long arc of labor-saving technology and the current transition from narrow, specialized robots to general purpose mechanical muscles and minds. Business incentives to automate. Self-programming software bots. Professional bots. IBM Watson doctor bot. The shape of things to come.

**Jobs in an automated economy**

- **TED talk by economist Andrew McAfee: Are droids taking our jobs?**

- **TED talk by Erik Brynjolfsson: The key to growth? Race with the machines**
  Productivity is at an all-time high, but has become decoupled from jobs. The new machine age is digital, exponential, and combinatorial. Machine learning. Learning to race with the machine.

- **Nick Hanauer: Rich people don’t create jobs**
  Wealthy Seattle entrepreneur Nick Hanauer presents the argument that businesses create jobs as a last resort when demand is high, and, therefore, it is middle class consumers who are the real job creators.

- **TED talk by Andrew McAfee: What will future jobs look like?**
  Why is this time different? Unprecedented machine skills. Operating in the real world. General purpose applications. The abundance resulting from productivity. The thorny challenges: underpinning middle class consumer demand and the disparate prospects of two types of workers.

**Shorter videos of emerging automation**

- Meet Amazon’s busiest employee – the Kiva robot (2:26)
- Amazon reveals new delivery drone prototype (1:46)
- Caterpillar’s autonomous trucks (1:47)
- Robots speed up lettuce harvest process (2:27)
- Super high-density olive harvester (3:09)
- Smart agricultural robots (3:04)
- Inside the robotic pharmacy (2:31)

**Understanding cognitive computing — IBM Watson**

- What will you do with Watson? (2:33)
- Watson may help beat cancer (3:37)
- IBM’s Watson brings health care technology to the cloud (4:32)
- NOVA: IBM Watson: Smartest machine ever built (52:14)
- IBM Watson: How it works (7:52)
How the automation roadblock impacts students

Remarking on the ever-accelerating advances in automation, especially in machine learning and artificial intelligence, Brynjolfsson and McAfee warn:

> It’s becoming harder and harder to have confidence that any given task will be indefinitely resistant to automation. That means people will need to be more adaptable and flexible in their career aspirations, ready to move on from areas that become subject to automation, and seize new opportunities where machines complement and augment human capabilities.  

While automation will help drive economic growth and open the way to new industries and occupations, Kaplan worries that workers are vulnerable to the speed of the coming change:

> Advances in information technology are already cutting industries and jobs at a furious clip, far faster than the labor markets can possibly adapt, and there’s much worse to come…. The usual rejoinder to this is that the improved productivity will increase wealth, floating all boats, and that new jobs will emerge to cater to our expanding desires and needs. True enough — in aggregate and on average. But when you dig deeper, this doesn’t necessarily mean that we are better off. With labor markets, as with global warming, it’s the pace that matters, not the fact. Current workers may have neither the time nor the opportunity to acquire the skills required by these new jobs. And average income doesn’t matter if a small cadre of superwealthy oligarchs takes the lion’s share while everyone else lives in relative poverty. Increasing wealth may float all yachts while sinking all rowboats.

As businesses harness physical robots and software bots to “engineer the labor out of the product,” Ford foresees a permanent jobs deficit:

> Information technology has now reached the point where it can be considered a true utility, much like electricity. It seems nearly inconceivable that successful new industries will emerge that do not take full advantage of that powerful new utility, as well as the distributed machine intelligence that accompanies it. As a result, emerging industries will rarely, if ever, be highly labor-intensive. The threat to overall employment is that as creative destruction unfolds, the “destruction” will fall primarily on labor-intensive businesses in traditional areas like retail and food preparation, while the “creation” will generate new businesses and industries that simply don’t hire many people. In other words, the economy is likely on a path towards a tipping point where job creation will begin to fall consistently short of what is required to fully employ the workforce.

Ford’s thesis is supported by the 15-year slide in the labor participation rate of prime-age workers (those 25–54 years old). The 81% of prime-age workers who are employed or actively looking for work is a 40-year low, and the downward trend continues. (The prime-age labor participation rate is one of the best
gauges of the labor market’s health and strength, as the unemployment rate ignores discouraged workers and those only semi-active in job hunting.)

Economists are busy attempting to project not only the overall impact of automation on jobs but also the impact on specific jobs and industries that will be most affected. Bloomberg took some of this data and created an interactive chart of potential job automation risk, with vulnerability running along the x-axis and pay level along the y-axis. Circle size represents the number of jobs at risk; color represents education level (blue for most education, red for least education). Roll your cursor over any circle for information on each job classification. In general, the model concludes that “a college degree lowers job automation risk”; however, note the number of green (postsecondary degrees) jobs across the vulnerability continuum. Furthermore, as noted in Report 1, all jobs — especially middle-skill jobs — are continually being redesigned and transformed in response to technological and economic pressures. Friedman stresses that every job is being pulled apart faster (disaggregated)… pulled out faster (automated, outsourced, and offshored)… and pulled down faster (made obsolete).
For students — both the one-third likely to attain a bachelor’s degree and the two-thirds likely to end up with less education — automation creates roadblocks in at least five ways:

1. Students are competing with older, more experienced workers for too few jobs in an increasingly uncertain, turbulent, and competitive labor market.

2. Many middle-skill jobs that are the traditional on-ramps to a working life for under-30s are being automated away while many of the low-skill routine jobs that remain, like today’s fast food jobs, offer little training or advancement.

3. Junior-level jobs in law, radiology, computer programming, and many other high-skill fields are being automated as well, increasing the risk of students pursuing an expensive college education and ending up severely underemployed.

4. Picking a training program, college major, or occupation entails much more uncertainty and risk, as the future of that career path may be short-lived and never yield a suitable return on investment.

5. As smart machines take on routine and predictable tasks, young workers lose invaluable “situated learning” opportunities to observe, learn, and grow from more experienced co-workers and supervisors.

On this last point about lost learning opportunities, industrial psychologist Shoshana Zuboff points to social critic Harry Braverman’s influential 1974 reinterpretation and critique of automation in which he described the “degradation of work.” Braverman observed that a characteristic of automation was the absorption of human skills by technology — and the reduction of on-the-job opportunities for worker skill development and, thus, workers becoming progressively less capable. This pattern of skill erosion has long been true in the construction and manufacturing trades, and it is likely to be true in knowledge work as well.

In addition, as Kaplan observes, the separation of education and work is a further impediment:

The skills required to do the available jobs are likely to evolve more quickly than workers can adapt without significant changes to how we train our work force. Our current sequential system of education and work — first you go to school, then you get a job — was fine when you could expect to do more or less the same thing for a living throughout your working life. But looking forward, it simply isn’t going to work. The nature of the jobs available will shift so rapidly that you may find your skills obsolete just when you thought you were starting to get ahead.

The rising popularity of internships and service learning demonstrates that many students recognize the benefits of immersing themselves in the world of work. However, education needs to go much further to: 1) inform and caution students about technological change in the workplace; 2) develop the broader and richer competencies that will equip young people to compete in an economy increasingly structured around smart machines; and 3) generate personal strategies for creating value. Following are three such
strategies, culled from the literature and supported by employment trends and projections, that all workers can use regardless of their education attainment:

1. **Embrace the machine.** Ride the technology waves by working in a complementary way with smart machines. Leverage computers, bots, robots, and artificial intelligence in a uniquely human way to provide solutions that machines cannot offer. As futurist Kevin Kelly says, “You’ll be paid in the future based on how well you work with robots.”

2. **Build your human interaction skills.** Emphasize skills and opportunities that require extensive forms of human communication and interaction: managing, leading, negotiating, teaching, coaching, selling, persuading, and caregiving. Cultivate your social capital.

3. **Create value around your special strengths.** Specialize in a niche in which your talents and skills are rare and valuable. Understand the value you can bring to others and be prepared to morph and adapt as the labor environment evolves.

(For more ideas, visit the *Getting Smart* guest blog by middle school teacher, Amber Chandler: “Would You Rather be Traditional or Prepare Students for the Future?”)

The four MyWays domains, we believe, provide the conceptual mapping of competencies needed to develop strategies such as those above and forge student success in the new economy.

The weak labor market (Roadblock 1) and accelerating automation (Roadblock 2) are restructuring the world of work in other ways that challenge young workers. One of those ways is the shift to an on-demand workforce, in which part-time, temporary, and “gig” workers perform more and more of the work. We turn next to the impact of this roadblock on under-30s.

**ROADBLOCK 3. The hard shift to an on-demand workforce**

> “In more and more workplaces, the employment relationship has been broken into pieces, often shifted to subcontractors, third-party companies, or, more troubling, to individuals who are treated as independent contractors.”

—David Weil and Tanya Goldman in *Perspectives on Work*

Along with accelerating automation, today’s students and under-30s face a second restructuring in the labor market: the shift from regular payroll jobs to on-demand, shorter-term employment. Way back in 1993, *Time* magazine heralded this transformation in “The Temping of America”:

America has entered the age of the contingent or temporary worker, of the consultant and subcontractor, of the just-in-time workforce — fluid, flexible, disposable. This is the future. Its message is this: you are on your own. For good (sometimes) and ill (often), the workers of the future will constantly have to sell their skills, invent new relationships with employers who must, themselves, change and adapt constantly in order to survive in a ruthless global market.
Twenty-five years later, experts estimate that approximately four out of every 10 workers are temporary, part-time, contingent, freelance, or self-employed. While the Bureau of Labor Statistics does not have reliable data on these trends, it is probable that more than half of under-30 workers are on-demand workers. Among people employed by the Fortune 100, 20–30% are now working on a short-term basis, either as independent contractors or temp workers.

McKinsey explains the business perspective:

> Technology makes it possible for companies to manage labor as a variable input rather than a fixed one. Using new resource-scheduling systems, they can staff workers only when needed — whether it’s for a full day or a few hours. In our survey, more than half of employers expected to use more part-time, temporary, and contingent workers in the years ahead. This trend is driven partly by concerns over the strength of the current recovery, but many employers say they will continue to employ contingent workers for flexibility and to better use their permanent workforces.

In fact, these forms of on-demand work are part of a larger strategy by big corporations to shed their role as direct employer in a process that Boston University School of Management’s David Weil, a leading expert in the field, calls fissuring:

> From the perspectives of CEOs and investors, fissuring — splitting off functions that were once managed internally — has been a phenomenally successful business strategy, allowing companies to become more streamlined and drive down costs. Despite giving up direct control to subcontractors, vendors, and franchises, these large companies have figured out how to maintain quality standards and protect the reputation of the brand. They produce brand-name products and services without the cost of maintaining an expensive workforce. But from the perspective of workers, this lucrative strategy has meant stagnation in wages and benefits and a lower standard of living — if they are fortunate enough to have a job at all. [For more, see this five-minute interview with Weil.]

“The key to this talent-on-demand model,” says McKinsey, “is the availability of workers with specialized skills who are willing to work on a contingent basis.” That availability is likely to continue because, as we have seen, we are caught in a chronically weak labor market that is unlikely to rebound in a substantial way. With so little leverage, workers are subject to low wages, negligible benefits and
security, and poor (and sometimes exploitative) working conditions. Furthermore, the training, mentoring, and advancement that younger workers need is often far more difficult to secure in on-demand environments; to illustrate, see the story of two janitors at two top companies (sidebar), one a direct employee at Kodak in the 1980s, the other works today for a cleaning contractor at Apple.47

There was a time when a temp job was a pathway to a permanent position; however, research by Susan Houseman, an economist at the Upjohn Institute of Employment Research, shows that today only 27% of such assignments lead to permanent positions.48 While some workers love the freedom and flexibility of on-demand work, many others participate involuntarily as a last resort.

Some workers turn for income to gig platforms like Uber, Lyft, Postmates, Instacart, TaskRabbit, MechanicalTurk, Elance, Upwork, or any number of other similar services. Many times, this work is performed virtually, with little or no supervision or chance to learn from more experienced workers. Further, a car or computer or phone may be required — assets that not all young workers can afford.

*How the on-demand economy roadblock impacts students*

In his article, *Children of the Great Recession*, Ronald Brownstein describes the roadblock that the on-demand economy presents to students and under-30s:

> The working world has become an inscrutable maze of part-time jobs, temporary gigs, and full-time positions that abruptly dissolve into layoffs and start the entire disorienting cycle again.49

Today’s generation is the first to confront and attempt to reconcile two employment realities: the practical merits and tradeoffs inherent in the on-demand economy on the one hand, and the long-range career development benefits of more “permanent,” payrolled jobs on the other. To navigate this maze, middle school and high school must help students acquire awareness, strategies, competencies, and tools not needed by previous generations who were able to enter the labor market through more permanent, payrolled jobs. As we explore next, another important quandary for young people is a growing bias on the part of employers to hire workers with previous work experience, both general work experience and in the specific job being filled.
ROADBLOCK 4. A bias for hiring experience over potential

“To get a job, you have to have that job already. It’s a Catch-22 situation for workers — and it’s hurting companies and the economy.”

—Peter Cappelli, *Why Good People Can’t Get Jobs*

When labor is in short supply — broadly or within narrow niches — employers give great attention to training and employee retention, with workers enjoying higher wages and better working conditions. Unfortunately, the abundance of labor has created a buyer’s market in which labor is increasingly seen as a commodity and employers pay lower wages, gut their investments in training and retention, and impose exploitive work policies. Analyzing the employment prospects for teens and young adults, Andrew Sum and his team at the Brookings Institution concluded:

While labor market problems affected all young people, some groups had better outcomes than others: Non-Hispanic whites, those from higher income households, those with work experience, and those with higher levels of education were more successful in the labor market. **In particular, education and previous work experience were most strongly associated with employment.** [emphasis added]

In fact, the expectation of previous work experience now plays so prominently in the hiring decisions of employers that it merits attention as the fourth roadblock to employment in this new economy. The so-called “skills gap” that employers commonly report is actually unrealistic expectations of previous experience, argues Peter Cappelli in *Why Good People Can’t Get Jobs*:

When we look at the facts, there is no evidence to support [a skills gap]. “The real culprits,” I wrote, “are the employers themselves. With an abundance of workers to choose from, employers are demanding more of job candidates than ever before. They want prospective workers to be able to fill a role right away, without any training or ramp-up time.”

The conundrum directly affects young people looking for work after high school or after completing a two- or four-year college program. Without experience, you can’t get a job. For example, Sum’s team calculates that the number of employed teens is falling, even during periods when total employment is growing. They found that “the share of teens with any paid employment throughout the year dropped from 55 percent in 2000 to 28 percent in 2011.” Their study of the 100 top metropolitan areas found that 80% of Asian, black, and Hispanic teens were jobless year-around, as were 65% of whites.

With respect to college students, Cappelli reports:

What employers want from college graduates now is the same thing they want from applicants who have been out of school for years, and that is job skills and the ability to contribute now. That change is fundamental, and it is the reason that getting a good job out of college is now such a challenge.
The bias for job skills and the ability to contribute immediately is so strong, in fact, that four of the top five attributes in evaluating college graduates for hire were related to experience rather than academic performance, according to a 2012 employer survey:

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<th>Relative Importance of Attributes in Evaluating Graduates for Hire</th>
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<td>Internships</td>
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<td>Employment during College</td>
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<td>College Major</td>
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<td>Volunteer Experience</td>
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<td>Extracurricular Activities</td>
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<tr>
<td>Relevance of Course Work</td>
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<td>College GPA</td>
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<td>College Reputation</td>
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What happens to college graduates who don’t have the work experience to land a job they studied for? Cappelli explains that they take lesser jobs and bump less-qualified workers:

The reality is that the lower unemployment rate for college graduates comes from the fact that college graduates can also do the jobs that require only a high school degree, and arguably do them better, so they win the competition for those openings. When applicants far outnumber job openings, the overqualified bump out those only adequately qualified.

The same dynamic is in play when an older college grad with work experience bumps a recent grad with less experience. When young college grads fill jobs with lesser requirements, underemployment increases and their income falls. One byproduct of this buyer’s market is degree inflation — employers’ insistence on a college degree as the minimum requirement for lower-skill jobs like barista or cab driver.

Of course, the prior work experience requirement is most problematic and damaging to those seeking their first job, regardless of their education level. That first job is truly important as the bottom stop on the career elevator, as well as for a host of socioeconomic, psychological, and health reasons.

One partial way to circumvent this roadblock is to persuade employers to shift from focusing on work experience to looking for demonstrations of a job’s skills and competencies. Some companies, most notably those in computer programming, are doing just that. While such employers often use a degree in a perfunctory way as an applicant screening/signaling mechanism, it is not the same as “proof” that a person can properly perform a job. Accordingly, schools and youth-serving organizations can help students at all levels of educational attainment to demonstrate and validate their general work readiness and their specific competencies to perform the tasks at hand.
The other side of the same coin — the gutting of employee training

Another consequence of employers’ expectations of prior work experience is their substantial disinvestment in employee training. With respect to the old human resources axiom about “making or buying” human capital (that is, training employees up or hiring higher-skilled workers instead), the pendulum has swung far in the ‘buy’ direction by hiring workers with the skills to be instantly productive, farming work to temporary or contract workers, and shifting investment from training (the “make” option) to automation.

Cappelli quantifies the trend:

In 1979, young workers received on average about 2.5 weeks of training per year. By 1991, census data found that only 17 percent of employees reporting had received any formal training over the past year. Several employer surveys around 1995 indicated that somewhere between 42 and 90 percent of companies offered some training — the lower number indicating more programmatic training — but the total amount of training an individual received per year averaged just under 11 hours…. Most recently, in 2011, the global management consulting firm Accenture surveyed US employees and found that only 21 percent has received any employer-provided formal training in the past five years. In other words, nearly 80 percent of today’s workforce is doing jobs with no recent instruction, if any at all, in five years. 58

Apprenticeship programs have been eliminated or sharply curtailed. 59 For example, despite large-scale apprenticeship programs at virtually all major manufacturers, one manufacturing expert estimates that only about 18,000 apprentices exist in the entire industry — the equivalent of just over one-tenth of 1% of the manufacturing workforce. 60

One of the downsides of the on-demand economy can be seen in Cappelli’s explanation:

Employee flight is certainly a reasonable fear, but it is one compounded by an environment in which every employer wants trained workers and no one wants to pay for their training. If companies know that their competitors are also trying to hire experienced workers who can “hit the ground running,” they don’t want to pay to train someone who will soon work for another company. Of course, this across-the-board intransigence virtually guarantees that it will be increasingly hard for any company to find qualified applicants, which will make long-term vacancies more and more common. 61

Employers in many other countries have a much stronger tradition of working closely with K-12 and postsecondary institutions to ensure that school prepares young entrants for the labor market. —Nancy Hoffman Jobs for the Future

How the experience bias roadblock impacts students

The implication of the experience-over-potential roadblock, and the danger of diminished career prospects, is that we can no longer assume that work experience can be an afterthought in K-12 education.
We must make deliberate accommodations for students to acquire work experience during their high school years — including reimagining, reinventing, and dismantling the wall between school and work. As William Symonds and his colleagues emphasize in *Pathways to Prosperity*, work experience must be part of a broader vision of school reform — a theme we will continue to explore in future reports.62

Commenting on the current bias among US employers in favor of short-term over long-term gains, Nancy Hoffman at Jobs for the Future notes:

Employers in many other countries have a much stronger tradition of working closely with K-12 and postsecondary institutions to ensure that school prepares young entrants for the labor market.63

Perhaps such partnerships can relieve some of the crisis in this country. Meanwhile, the cost and risk of training, even for technical jobs, now falls on the worker, a topic we return to in Report 3, *5 Decisions in Navigating the Work/Learn Landscape*.

Before offering key takeaways about these labor market challenges, we discuss one last roadblock: the onerous hiring processes resulting from software-driven hiring and unrealistic employer expectations.

**ROADBLOCK 5. The job-hunting labyrinth**

“You want the job-market to be a hiring game. But the employer regards it as an elimination game — until the very last phase.”

—Richard N. Bolles, *What Color is Your Parachute*64

Networking. Dropping off a resume. Filling out a paper application. In some settings, job hunting still works like this; however, increasingly, the application process bears little resemblance to these traditional, face-to-face methods. Today, job openings are blasted out to online job sites and applications are screened electronically by applicant-tracking systems driven by algorithm. Cappelli explains the logjam and chaos that can ensue:

Employers are overwhelmed by applications, and there is no way they can go through them all manually. So they use these systems to help. The downside is that the screening criteria are imperfect. Typically the screening software looks for key words, and if an applicant doesn’t include the right key words, out goes his application.65

Cappelli describes one company that had 25,000 applicants for a standard engineering position — and the HR people said that not one of those applicants was qualified! Furthermore, in this new automated application process, applicants are at the mercy of the machine, rarely talking to anyone, even by email.

Young applicants — who lack previous work experience, human advocates, or familiarity with digital job hunting — are operating at a distinct disadvantage.
Here’s how *What Color is Your Parachute?* describes what job hunters experience:

Since 2008, the average number of people applying for any given job has been 118. Knowing that there is such a large pool of applicants, many employers are now *over-screening*. They are tightening the parameters around who they will even consider. “*Must be currently employed,*” is the biggest change since 2008. “*Must have direct hands-on experience with this population,*” is another. Thus, in one way or another many employers now reject candidates they would have cheerfully hired eight years ago. Reason: with the recovery still unsteady and slow, employers are more averse than ever to taking risks, so they keep thinking that now with all these unemployed out there, maybe somebody better will come along next week. Of course, this ideal employee some employers are looking for, may not even exist. But even as a myth, this idea of “a better employee than the one I’m currently interviewing” definitely affects hiring plans. Not all employers think this way; but way too many do.66

In part as a result, many job searches are taking longer. For example, data from the Bureau of Labor Statistics (chart) shows that 25.9% of unemployed workers spend 27 weeks or more to secure a new job, up from 18.3% 10 years ago.67

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<tr>
<th>Duration of unemployment, 2007-2017, as a percentage of all unemployed workers</th>
<th>July 2007</th>
<th>July 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 weeks</td>
<td>35.4</td>
<td>30.9</td>
</tr>
<tr>
<td>5 to 14 weeks</td>
<td>31.2</td>
<td>29.3</td>
</tr>
<tr>
<td>15 to 26 weeks</td>
<td>15.2</td>
<td>13.9</td>
</tr>
<tr>
<td>27 weeks and over</td>
<td>18.3</td>
<td>25.9</td>
</tr>
</tbody>
</table>

The temp marketplace and the gig marketplace present even more confusion and complexity for the job hunter. (It is a great irony that, while many permanent employers have cut training, temp agencies often help temporary workers build their skills because they can hire out people at better wages when they do.68)

*How the job-hunting labyrinth roadblock affects students*

Even in well-to-do families, the modern job-hunting labyrinth of software-driven hiring and unrealistic employer expectations is a daunting roadblock for young job seekers. Furthermore, less advantaged students face even more onerous odds — apart from the academic achievement gap — stemming from less work-based experience, social capital, linguistic/cultural familiarity, Internet access, and financial resources. Young job seekers of all socioeconomic backgrounds need the pathways and tools to navigate this labyrinth and make a successful transition from school to work. The alternative is the further worsening of our youth employment crisis.
Labor market takeaways for next generation educators

For much of its history, the US led the world in public education, producing a skilled workforce that helped drive economic growth and worker prosperity. Today, we have a modern, vibrant economy, but workers in general — and young people in particular — are getting crushed by technological change and shifts in the role of labor. Our future as a nation and our obligation to future generations hinges on quickly reimagining and restructuring education so that adolescents in today’s age of accelerations — regardless of family background — develop the competencies to survive and thrive in a fast-changing economy that overwhelmingly favors high-skilled workers. We recap here the roadblocks that stand in the way:

Recapping the 5 Roadblocks facing aspiring young workers today

1. **A chronically weak labor market**
   The Great Recession exacerbated a multi-decade slowdown in employment growth that often puts younger, less experienced workers at the back of the line for job openings. The job market is requiring more and more preparation for lower and lower starting wages. College is no longer a safe harbor — unemployment and underemployment are rampant for younger college graduates while wages are down. Teen employment is withering; for urban, low-income teens of color, the odds of having a job — any job at all — now stand at roughly 10%.

2. **The accelerating pace of automation**
   From 1998 to 2013, the US economy grew by 43% (inflation-adjusted) while total labor-hours remained unchanged as a result of increased productivity. The conclusion of many experts is that we have entered a “second machine age,” in which enormously powerful computing is merging with increasingly sophisticated “mechanical muscles.” Many routine jobs are being engineered away and software bots are increasingly able to perform complex, predictable work — such as financial analysis, legal discovery, and medical imaging interpretation — that heretofore were solely in the human domain.

3. **The hard shift to an on-demand workforce**
   Today’s students face a second restructuring of the labor market: the shift from regular payroll jobs to on-demand, shorter-term employment. Approximately four out of every 10 workers today is temporary, part-time, contingent, freelance, or self-employed. Gig platforms such as Uber, TaskRabbit, and Upwork are expanding but require experience and assets such as a car, computer, or phone that not all young workers can afford. One writer calls the current working world “an inscrutable maze of part-time jobs, temporary gigs, and full-time positions” that can abruptly dissolve.

4. **A bias for hiring experience over potential**
   The abundance of labor has created a buyer’s market in which labor is increasingly seen as a commodity. Choosy employers now put a premium on previous work experience and job skills to ensure immediate contribution. Workers with more experience or education routinely bump younger workers, who are typically less experienced and less educated workers into lower-skill jobs. The abundance of experienced workers has also resulted in employers slashing employee training programs.

5. **The job-hunting labyrinth**
   Today, job openings are blasted out to online job sites while application-tracking systems screen applications electronically. Applicants often never communicate with a human, even by email, and excessively narrow, and sometimes arbitrary, job requirements often knock out even highly qualified applicants. A quarter of unemployed workers are spending more than six months looking for work and, while the temp marketplace and gig marketplace offer an alternative, this avenue can also be uncertain, confusing, and complex.
This is the new world of work: full of possibility but also great risk, particularly for those entering the labor market with little experience. While virtually all students will encounter these roadblocks, those with lesser skills and those from less advantaged backgrounds will find them especially challenging. Nevertheless, every student will need the tools to navigate the work/learn landscape.

The MyWays Student Success Framework outlines the general direction we need to go: focus on each student’s Habits of Success for personal effectiveness; strengthen their Creative Know How to create value; deepen their Content Knowledge about a complex, information-rich world; and add Wayfinding Abilities to transition through these roadblocks to new learning, work, and life opportunities. To align next generation learning with the world today, we encourage educators to apply their own version of the four-question through-line that guided the overall MyWays Project (see Introduction and Overview of the MyWays Student Success Series) to each of the five reports that comprise Part A, “Adolescence in an Age of Accelerations.” To apply the through-line to the labor market roadblocks, treat each roadblock as a specific, well-defined learning design challenge. First, study the roadblocks as they impact your school’s students (see graphic below). Next, set student goals for each competency that you feel will be essential to overcoming the roadblocks. Third, design learning experiences to achieve those competency goals (referring to the resources in Parts B and C of the MyWays Student Success Series for assistance). Finally, gauge student progress toward those goals by applying assessment principles described in Report 12. (For tools and exercises related to the MyWays Through-line, see the Tools section of the MyWays website.)

Based on the 5 Roadblocks described in this report, here are key labor market takeaways for next generation educators:

**Takeaway 1:** The first shift in thinking that must be made is that “average is over.” Graduating with the same skills and abilities as myriad other high schoolers is a distinct competitive disadvantage. Routine jobs are being swept away, yet our economy grows, new opportunities are spawned, older workers retire, and those who create value (relative to others) continue to get ahead. To find success in this new economy, students need to find their individuality — what developmental psychologist Todd Rose calls their “jaggedness” — and be nurtured in environments that can help them identify and develop their strengths along with the fundamentals, and figure out where they can create value. (We return to this topic in Report 5.)
Takeaway 2: We need to pivot from “getting the right answer without making mistakes” to acquiring strategies for surviving and thriving in a more Darwinian time, as Reid Hoffman and Ben Casnocha describe in *The Start-Up of You*:

> The conditions in which entrepreneurs start and grow companies are the conditions we *all* now live in when fashioning a career. You never know what’s going to happen next. Information is limited. Resources are tight. Competition is fierce. The world is changing. And the amount of time you spend at any one job is shrinking. This means you need to be adapting all the time.⁷⁰

Not everyone needs to start a business in the traditional sense, but our lives are now creative enterprises and the scripts we follow are increasingly ones that we write ourselves. The goal, as business guru Seth Godin says, is “to bring your best self to the marketplace and be rewarded for it.”⁷¹ Hoffman and Casnocha remind us that, in many ways, we are returning to our pre-industrial, pre-labor roots, quoting Muhammad Yunus, the microfinance pioneer and Nobel Peace Prize winner:

> All human beings are entrepreneurs. When we were in caves, we were all self-employed … finding our food, feeding ourselves. That’s where human history began. As civilization came, we suppressed it. We became “labor” because they stamped us, “You are labor.” We forgot that we are entrepreneurs.

We salute Yunus’s optimism; he is a great pioneer, fostering entrepreneurial creativity among the poorest of the poor. Yet, as educators, we need to remember that these adaptive abilities are not innate. Young people cannot throw a switch at age 18 and suddenly have the experience and judgment to navigate in a world of uncertain possibility; instead, we need K-12 and postsecondary schools that foster meaningful design thinking and entrepreneurial learning, including their application to the bootstrapping of careers.

Takeaway 3: Labor market and hiring trends suggest that, in today’s competitive economy, the making of a career (including college and other postsecondary education) involves the continual interplay of *four components*: in-demand skills to create value in the real world, work experience as evidenced by jobs and promotions, degrees and credentials as screening/signaling indicators of competence, and social capital for support, access, and resources. Together, we envision these four elements as part of an “opportunity engine” — a simple but meaningful MyWays model of career development in the 21st century. Just as the engine of a car converts action/activity into propulsion, the opportunity engine harnesses the collective force of four components, or blades, to propel each of us forward on our career-building journey. Unlike a car engine, however, the opportunity engine grows and matures over time; our careers are in “permanent beta,” as Hoffman and Casnocha remind us,⁷² as we continuously improve and adapt each blade of our personal engine to the changing circumstances and opportunities we encounter during the wayfinding decade and beyond.
The four blades of the opportunity engine are not new; they are the same components that employers have evaluated for years. What’s new, however, is that *work experience, in-demand skills, and social capital* are now being evaluated for young applicants, along with their *degrees and credentials*, just as they are for seasoned workers.

An exercise: consider the evolution of your own opportunity engine. *What were its contours when you left high school, when you started your first real job, and when you made your first career change?* The thesis behind the opportunity engine construct is that these four components, or blades, have always been helpful in navigating college and career, but in today’s competitive labor market, all four elements *must* be present for college-career advancement.

We already know, for example, that the high school degree-holder without work experience, marketable competencies, or social capital is unlikely to find career-advancing employment or even, in many cases, career-advancing postsecondary education. The same is true for the college graduate who, despite earning a degree, lacks previous work experience and social capital and cannot demonstrate the specific skills and competencies that an employer values. For both the high school degree-holder and the college graduate — as important as these credentials are — work experience, marketable competencies, and social capital have also become indispensable.
Takeaway 4: The 20 MyWays competencies relate to the opportunity engine’s four blades in two ways. First, the inclusion of the Wayfinding Abilities domain as a full quadrant of the MyWays Student Success Framework covers the basic competencies involved in both career/life advancement and entrepreneurial pursuit: survey the landscape; identify opportunities and set goals; design and iterate prototype experiences; find needed help and resources; and navigate each stage of the journey. These skills require resiliency as well as adaptability, as students must learn when to persist with a plan and when to pivot elsewhere if a plan is not working.

Second, all 20 of the MyWays competencies support development of students’ opportunity engines:

- **Habits of Success** addresses personal development, resourcefulness, and resolve. Although the competencies in this domain are based on the University of Chicago Consortium on School Research’s model for academic performance, we are confident that they transfer meaningfully into the career realm, bolstering the development of marketable competencies, work experience, and social capital, as well as degrees and credentials. (Report 7)

- **Creative Know How** encompasses general skills that are central to students’ own creative ventures and highly valued in the workplace, such as prowess with technology and working effectively with others. As a result, Creative Know How is frequently the domain where reside the job-specific marketable competencies that employers seek. (Report 8)

- **Content Knowledge** emphasizes a broader and deeper ability to apply ELA, math, and other academic knowledge to solving real-world problems. Cultivation of Career-Related Technical Skills is explicitly added, as is Interdisciplinary and Global Knowledge of economic, environmental, civic, and cross-cultural issues. (Report 9)

- **Wayfinding Abilities**, discussed above, focus directly on a young person’s ability to navigate transitions or new initiatives in three areas: 1) specific learning, work, or life transitions such as moving from middle school to high school or high school to college, adapting to a new culture or
community, or beginning a new job or real-world experience; 2) adding new competencies, experiences, relationships, and credentials to their opportunity engine; and 3) applying the Wayfinding competencies on a group project within a learning or work setting. (Report 10)

For a full description of the MyWays competencies, see Part B, “Broader, Deeper Competencies for Student Success.”

Before moving ahead, a clarification needs to be made between the MyWays competencies and the *in-demand* blade in the opportunity engine construct. While the MyWays competencies aid broadly in all aspects of work, learning, and life advancement, in-demand skills are the job-specific subset of skills that qualify a person, in an employer’s eyes, to be a lifeguard, a research biologist, a Farsi interpreter, or a next generation middle school teacher. A young person with both broader, deeper competencies and specific job skills valued by employers is likely to succeed.

As noted in the *Introduction and Overview of the MyWays Student Success Series*, the MyWays Student Success Framework was developed with consideration for career bootstrapping, equity and economic mobility, and whole-person development. (A fourth design consideration was the interoperability between various frameworks used by schools and organizations.) In this report, we have highlighted the 5 Roadblocks to Bootstrapping a Career, noting here the role of MyWays competencies in helping young people develop an opportunity engine to maneuver through these roadblocks. In the following report, we look at the MyWays competencies and opportunity engine in the context of the 5 Decisions in Navigating the Work/Learn Landscape. Despite an emphasis on economic opportunity for young people, the MyWays competencies also underpin broad personal development, self-awareness, global citizenship, academic performance, and self-actualization. In addition, the framework is designed with the flexibility to serve both college-going students and those seeking to begin their journey directly in the workplace or in a short-term certificate program.

**Takeaway 5: Preparing students to be ready for what follows high school requires far more real-world immersion and authentic learning than is typically provided.** As the 5 Roadblocks reveal, students must now compete toe to toe with older, more experienced workers in a more uncertain and complex labor market. The earlier that students and under-30s begin constructing their unique opportunity engines, the smoother their entry into the economy will be. It is equally true that most of the competencies identified in the MyWays framework require an integration of higher thinking skills and real-world abilities — an integration that traditional classroom learning cannot achieve alone. We conclude with three constructs that are particularly helpful in creating authentic learning experiences that students need:

- **Whole Learning, through junior versions.** Developed by David Perkins at Harvard’s Project Zero, Whole Learning combines seven key principles of effective authentic learning. Perkins argues that broader, deeper competencies require educators to “honor the whole” — by creating “junior versions” of real-world experiences that are developmentally appropriate. Quality project-based learning, extracurriculars, and some community service projects have applied these principles for years (for more on this, see Report 11).
Wider Learning Ecosystem. The universe of learning options beyond formal K-12 education has never been richer, spanning school-based extracurriculars, college-based learning, career-related learning, community-mediated learning, and everyday formal and informal learning. The US, in particular, has a fertile if untamed Wider Learning Ecosystem that students should acclimate to while in K-12, as they will be relying on it repeatedly as they work and learn in the years after high school (for more, see Report 11).

Levers for Capability and Agency. Research suggests that competence is the union of capability and agency, where capability is knowledge and the understanding to use it in real-life situations and agency is a deep and durable self, acting to shape one’s development and environment. Learning science provides eight levers for fostering capability and agency (for more, see Reports 5 and 11).

As next generation learning embraces new constructs like those above, traditional test-based assessment methods break down. Two paradigm shifts are needed: the shift to greater authenticity and the shift to multiple and varied measures. Report 12 summaries our research on assessment design for broader, deeper competences.

Takeaway 6: Our final takeaway is that one response to the change and upheaval in the labor market is a marked increase in just-in-time learning. In the face of technological change, both Kaplan (Humans Need Not Apply) and Cappelli (Will College Pay Off?) believe that long periods of education are impractical and financially risky for the learner. Instead, they envision learning and work woven together (or, at worst, young people having shorter learning-to-work cycles). The explosion in certificate and badging programs, for example, opens opportunities to begin doing meaningful work earlier while furthering one’s education and earning income. There is also a rise in Bachelor’s degree programs that are shorter in duration or embed apprentice and work experience.

Combining work and learning is challenging and requires considerable self-management. Nevertheless, experience in authentic settings, with all the variety and serendipity that can unfold there, can be an important source of inspiration and self-discovery. As psychologist Kurt Fischer remarked on his research into how individuals develop: “Each of us has our own web of development, where each new step we take opens up a whole range of new possibilities that unfold according to our own individuality.”

The truth is that the working learner is already the new normal as we learned in the previous Report 1, Opportunity, Work, and the Wayfinding Decade. Next, we examine the work/learn landscape in greater detail in Report 3, focusing on the 5 Decisions in Navigating the Work/Learn Landscape, the second part of the 5-5-5 Realities.
Endnotes for Report 2


2 Sarah Ayres Steinberg, “America’s 10 Million Unemployed Youth Spell Danger for Future Economic Growth,” Center for American Progress, June 5, 2013, p. 1; and Bureau of Labor Standards for recession job data.


5 Durations are from Bill McBride, “May Employment Report: 217,000 Jobs, 6.3% Unemployment Rate,” blog, Calculated Risk, June 6, 2014. A second measure of jobless economies, the length of time between GDP returning to prerecession levels and jobs returning to prerecession levels, is provided in James Manyika, Susan Lund, Byron Auguste, Lenny Mendonca, Tim Welsh, and Sreenivas Ramaswamy, An Economy That Works: Job Creation and America’s Future, McKinsey & Company, June 2011, p. 3.


12 Ibid., pp. 5 and 7.

13 Ibid., pp. 2, 6, and 7.


20 Kaplan, Humans Need Not Apply, p. 133.


25 Jerry Kaplan, Humans Need Not Apply, 2015, p. 139.

26 Statistic is from the “Netflix” Wikipedia page, accessed on January 27, 2016.


31 Brynjolfsson and McAfee, The Second Machine Age, p. 203.

32 Kaplan, Humans Need Not Apply, p. 12.


35 Researchers at the University of Oxford, England, made headlines with their estimate that nearly half of all US jobs may be at risk. http://www.sciencedirect.com/science/article/pii/S0040162516302244

36 Thomas Friedman, Thank You for Being Late: An Optimist’s Guide to Thriving in the Age of Accelerations, Farrar, Straus and Giroux, 2016, p. 211.


38 Kaplan, Humans Need Not Apply, p. 13.


44 Manyika et al., An Economy That Works, p. 6.


50 Cappelli, Why Good People Can’t Get Jobs, p. 9.

51 Sum et al., The Plummeting Labor Market Fortunes, p. 1.


56 Ibid., figure 5.1.


60 Cappelli, *Why Good People Can’t Get Jobs*, p. 70.

61 Ibid., p. 72.


65 Cappelli, *Why Good People Can’t Get Jobs*, p. 11.

66 Bolles, *What Color is Your Parachute?*, p. 3.


68 Cappelli, *Will College Pay Off?*, p. 171.


The MyWays™ Student Success Series

All reports in the series are available for download at myways.nextgenlearning.org/report.

Visual Summary
Introduction and Overview

Part A: Adolescence in an Age of Accelerations

Summarizes specific real-world realities and conditions confronting today’s young people.

Report 1: Opportunity, Work, and the Wayfinding Decade
Report 2: 5 Roadblocks to Bootstrapping a Career
Report 3: 5 Decisions in Navigating the Work/Learn Landscape
Report 4: 5 Essentials in Building Social Capital
Report 5: Preparing Apprentice-Adults for Life after High School

Part B: Broader, Deeper Competencies for Student Success

Provides a composite definition of student success in learning, work, and life.

Report 6: Welcome to the MyWays Student Success Framework
Report 7: Habits of Success — for Learning, Work, and Well-being
Report 8: Creative Know How — for a Novel, Complex World
Report 9: Content Knowledge — for the Life Students Will Lead
Report 10: Wayfinding Abilities — for Destinations Unknown

Part C: Redesigning the Learning Experience for the MyWays Competencies

Brings the broader and deeper competencies of the MyWays Student Success Framework into educational practice.

Report 11: Learning Design for Broader, Deeper Competencies
Report 12: Assessment Design for Broader, Deeper Competencies

About this report

Report 3, 5 Decisions in Navigating the Work/Learn Landscape, examines how an age of accelerations is transforming postsecondary education, with a tripling in the number of career fields, a doubling in colleges and universities, and a five-fold increase in postsecondary programs of study. Costs and student debt are skyrocketing. Most students are working learners and most need to build social capital to gird their work/learn journey.

Report 3 is the third of five reports in Part A of the MyWays Student Success Series. Part A, “Adolescence in an Age of Accelerations,” analyzes the real-world changes and conditions that are most acutely impacting young people and outlines key developmental tasks of the adolescent years.

The MyWays Student Success Series examines the through-line of four essential questions for next generation learning and provides research and practice-based support to help school designers and educators to answer these questions. The series consists of 12 reports organized into three parts, plus a Visual Summary and Introduction and Overview.

The primary researchers and authors of the MyWays Student Success Series are Dave Lash, Principal at Dave Lash & Company, and Grace Belfiore, D.Phil., Principal Consultant at Belfiore Education Consulting.

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REPORT 3

5 Decisions in Navigating the Work/Learn Landscape

“Whether college pays off on average is not that comforting to someone about to roll the dice with the family nest egg on an investment that is hard to assess, that many things can go wrong with, and that even in the best of circumstances may not really pay off for a decade or more. [emphasis added]”

—Peter Cappelli, Will College Pay Off?

Just as technological and economic accelerations have created new challenges for young people in the labor market, significant new challenges are also arising in the rapidly evolving work/learn landscape — the challenging mix of postsecondary education, training, and early work experience that every high school student confronts after graduating (or leaving) high school. As in the previous report, we focus on five key challenges — in this case, the “5 Decisions.” In truth, each of these decisions is part of a mega-decision about how to embark on the wayfinding journey after high school and use those follow-on years to acquire the foundations for a successful career and life. The 5 Decisions are as follows:

1. **Plotting a path to entry and advantage**: What path will take to enter the work/learn landscape and pursue my longer-term goals? How will I refine that path over time to hone my competitive advantage?

2. **Calibrating the work/learn mix**: Given my interests, academic record, and financial means, what are my working and learning options? What is the optimal work/learn mix initially, and over time?

3. **Vetting postsecondary providers**: Which postsecondary education and training providers offer the highest quality experiences, a high return on my investment (financial and otherwise), and promising springboards to new opportunities?

4. **Figuring finances and risk**: How can I finance my education and training, avoid crippling debt, and mitigate risk?

5. **Cultivating social capital**: How can I cultivate my social capital during these formative years, especially if I lack family connections that can open doors?

As in the earlier Report 2, 5 Roadblocks to Bootstrapping a Career, this current report summarizes our research as it relates to each of these Decisions individually and then discusses key takeaways for next generation educators. Given the importance of more closely aligning K-12 and postsecondary education...
for student success, we produced a separate compilation of our postsecondary research, *Understanding the Postsecondary Years: A Data Digest of Today’s Evolving Work/Learn Landscape*, located, for those who want to go deeper, on the Reports page of the MyWays website.

Before looking at the 5 Decisions individually, it is valuable to first consider the postsecondary experience in its totality. We do this in the next three sections:

- **Leaving high school in an age of accelerations**

- **Work/learn readiness and the 5 Decisions**
  The 5 Decisions as a general model. The center of the 5-5-5 Realities. Impacts on the least advantaged young people.

- **Getting smart about the low rate of academic preparedness**
  Three levels of academic preparedness. The demographics of preparedness. The road ahead for each group.

### Leaving high school in an age of accelerations

With a troublesome labor market, escalating college costs, and general uncertainty about future opportunity, most young people find that figuring out what to do after high school borders on being a *wicked problem* — that is, a problem that is novel and complex, with high uncertainty and risk. One indication of their quandary: despite a rising college enrollment rate, the Organisation for Economic Co-operation and Development (OECD) reports that “the United States now has the highest college dropout rate in the industrialized world.”

The United States now has the highest college dropout rate in the industrialized world.

Organisation for Economic Cooperation and Development

Our fundamental problem is that our system has not evolved to serve young adults in this radically different world. Behaving as though four-year college is the only acceptable route to success clearly still works well for many young adults, especially students fortunate enough to attend highly selective colleges and universities. It also works well for affluent students, who can often draw on family and social connections to find their way in the adult world. But it clearly does not work well for many, especially young men. In recent years, a yawning gender gap has opened up in American higher education. Men now account for just 43 percent of enrollment in our nation’s colleges, and earn only 43 percent of bachelor’s degrees. Not surprisingly, women also account for 60 percent of the nation’s graduate students. Similarly, among the low-income and young people of color who will make up an increasing portion of the workforce of the future, this single route does not work well either. Many of these students are frustrated by an education they often find irrelevant and removed from the world of work. And given the barriers — including weak or nonexistent career counseling, rising college costs, inadequate
financial aid, and the frequent need to balance their courses with jobs that are often totally disconnected from their programs of study — it is a minor miracle that so many still manage to complete a degree.\textsuperscript{2}

Historically, society has placed most of the blame for these poor outcomes on the lack of college readiness, on poverty and family dysfunction, or on a perceived lack of drive and discipline within the students themselves. Our research suggests that what we call the 5-5-5 Realities play an enormous role: the 5 Roadblocks in the labor market that make it difficult to bootstrap a career (see Report 2), the 5 Decisions required to navigate the postsecondary work/learn landscape (discussed in this report), and the 5 Essentials in building social capital made increasingly important by society’s growing economic and social polarization (see Report 4). In each case, conditions for high schoolers are dramatically more complex due to the persistent accelerations that Thomas Friedman describes in \textit{Thank You for Being Late} — accelerations in technological change, globalization, and climate and the environment.

To help explain what is driving “the new normal” of “working learners” at the postsecondary level, \textit{Working While Learning}, a study by the Georgetown University Center on Education and the Workforce, highlights “the growing diversity among postsecondary programs of study, credentials, and modes of delivery that are aligned with an increasingly complex set of career pathways”.\textsuperscript{3}

- Between 1950 and 2010, the number of career fields identified by the US Census Bureau increased from 270 to 840.
- From 1950 to 2014, the number of colleges and universities grew from 1,850 to 4,720.
- Between 1985 and 2010, the number of programs of study offered by postsecondary education and training institutions grew from 410 to 2,260.

Students are also experiencing shifts in instruction via blended learning, distance learning, personalized learning, and more hands-on learning. New competency-based programs are being planned at more than 500 colleges and universities.\textsuperscript{4} There is a vocationalization movement in higher education. The proliferation of credentials, certificates, badges, boot camps, subscription learning, MOOCs, and noncredit programs is exploding and likely to be one of the most significant industry trends over the next decade. The for-profit sector is making major inroads and now accounts for 17\% of four-year enrollment and 50\% of skill credentials.\textsuperscript{5} Meanwhile, students are hit with ever-rising costs and student loans have now become the largest share of consumer debt. The bottom line: lots of potential opportunity for students… if they can sort out the options and find programs and pathways that fit. (See Decision 1 below.)

As \textit{Working While Learning} notes, “[there are] growing differences in cost and value among an expanding array of programs,” often leaving students, workers, and employers equally confused. However, it is the student/worker (the consumer) who bares the bulk of the risk. Students are trying to make prudent investments to advance their career prospects, yet their choices often lack transparency and few reliable resources exist to guide them. Meanwhile, students are working of necessity — to support themselves and their education economically, and to garner work experience and contacts to further their career prospects. This dizzying dual commitment to learning and working needs a name and, consistent with the notion of a
student’s arduous journey from high school to the workplace, we are calling the journey the *wayfinding decade* and the wild (and getting wilder) environment of postsecondary learning and early employment, the *work/learn landscape*. About this journey, *Learning While Earning* makes this profound point:

> Many young adults are taking longer to launch their careers: the shift from a high school-centered economy to a postsecondary-centered economy has added a new phase to the lifecycle. [emphasis added]"}

Cappelli emphasizes that “a career is a marathon, not a sprint.” Either way, it is a race, and good preparation and training are essential.

In response to this confusion, chaos, and opportunity, a chorus of voices support the idea that young people need to be more nimble, entrepreneurial, innovative, and improvisational. As Thomas Friedman warns them, “More will be on you.” Reid Hoffman and Ben Casnocha, in *The Start-up of You*, draw a tight parallel between starting a career today and starting a business:

> Why the *start-up* of you? When you start a company, you make decisions in an information-poor, time-compressed, resource-constrained environment. There are no guarantees or safety nets, so you take on a certain amount of risk."}

Contrary to the common image of entrepreneurs as risk-takers, successful entrepreneurs are exceedingly skilled at mitigating risk by making small bets that test hunches (“affordable loss”), leveraging the expertise and resources of others through well-cultivated social networks, investing in their competitive advantage, and adapting to market changes (“opportunistic adaptation”). Young people need the competencies to be entrepreneurial and improvisational, but also resilient and secure. No one solution meets this need; every student has his or her own set of competencies, assets, contexts, and aspirations.

### The role of MyWays competencies in the work/learn landscape

There are two ways the MyWays competencies can help students navigate the work/learn landscape. First, the MyWays domains provide the four kinds of competencies that students require to explore and problem solve as they pursue postsecondary education and their first employment opportunities. Second, the competencies help students invest in their own development and the “power” of their opportunity engines.

We begin by reintroducing the MyWays Student Success Framework and showing how it directly applies to the challenges of navigating the work/learn landscape.

Establishing a career has three stages: arrive, survive, and thrive. *Arrive* is like the first foothold in the work/learn landscape: the first meaningful job, initial enrollment in a postsecondary credential program, or (commonly these days) a combination of the two. *Survive* is the second stage where young people gain their bearings and begin to “get the job done” satisfactorily in academics or in the workplace. *Thrive* is the third stage, where they build on a foundation and leverage it to be more resilient, secure, and effective while pursuing new and better opportunities.
Through this three-stage process, a person’s competencies are like multi-purpose tools. At the arrive stage, Wayfinding Abilities (the “tools of navigation”) take the lead, helping young people evaluate postsecondary options and search for a job. For most affluent students, this effort centers primarily on getting accepted at the “best possible” four-year school and accumulating enriching experiences through work or travel. For all other students, however, the calculus is far more complex. College or work or both? Four-year or two-year? Technical program or liberal arts? Minimal debt or bet the farm? Residence or commute? This calculus is impossible without the Habits of Success competencies (the “tools of inner strength”) and Content Knowledge (the “tools of learning”) — these tools help young people know themselves, understand the world and workplace, collect and evaluate college and career information, and run the numbers on options. Further: interviewing, seeking information, negotiating, and persuading others regarding college applications, finances, and employment all require Creative Know How (the “tools of improvisation”).

At the survive stage, Wayfinding Abilities help young people evaluate their situation, juggle competing activities, adjust plans where appropriate, and begin identifying new opportunities. Habits of Success, Content Knowledge, and Creative Know How are now all geared to being consistent, meeting obligations, becoming a better student and worker, and avoiding setbacks. This is the “conscious incompetence” stage of becoming an adult when honing the competencies and learning to apply them is the focus.

At the thrive stage, Wayfinding Abilities shift again, this time toward growth and future opportunities and choices. Habits of Success are deepening as young people assume new responsibilities, manage stress, and begin applying greater self-awareness toward learning, work, and life choices. Content Knowledge and Creative Know How competencies deepen with experience and specialize around career and job responsibilities; this is true for high-, middle-, and low-skill jobs, albeit to varying degrees.

Through each stage, broader, deeper competencies are the fuel powering a young person’s opportunity engine. (For a full description of the MyWays Student Success Framework, see the five reports in Part B.)


**Building an opportunity engine with the MyWays competencies**

Young adults change jobs 6.3 times, on average, between the ages of 18 and 25.\(^\text{12}\) If each job builds constructively on the one before with meaningful learning along the way, the odds are good that 6.3 jobs will put a young person on a healthy career path even if the initial job is relatively modest. All too often, however, the progression is horizontal from one low-paying job to another with little career gain. In this case, the personal opportunity engine is not developing and future prospects are bleak.

To review, the *opportunity engine* is a simple, conceptual construct for career development that reflects two important trends in employment. First, today’s employers are evaluating *work experience, in-demand skills*, and *social capital*, along with *degrees and credentials* for young applicants just as they are for seasoned workers.

Second, for the vast majority of under-30s, a meaningful job in a career of their choosing is now a long, arduous struggle. Many calculations and work/learn moves may be necessary before “making it.” Accordingly, investing and developing one’s opportunity engine is now a crucial life skill.

Having briefly sketched out how the MyWays competencies are applied in the *arrive, survive, thrive* stages of the wayfinding decade — and noting that the competencies are the fuel that powers the engine — questions arise: How and when are those competencies acquired? How can we reimage high school to equip students with better competence for tackling the complex decisions about what to do after high school, including making, in many cases, what Peter Cappelli calls “the biggest financial decision” (the college investment) that many people will ever make?\(^\text{13}\) How can students, colleges, and advocates reimagine the postsecondary experience so that college graduates (and non-graduates) can optimize all four parts of their personal opportunity engines to compete in the labor market? Innovative schools at both the K-12 and postsecondary level are showing the way; we discuss the attainment of competencies much more in Parts B and C. That said, two principles appear paramount:

1. **Competencies build over time, so starting early is vital.** One of David Conley’s earliest contributions to the study of college readiness was the application of backmapping: first, by parsing the knowledge and skills that students need in order to be accepted at college and successfully complete college work, and then by creating year-by-year learning experiences that build toward those required competency levels. This same backmapping principle applies to all MyWays competencies as well as to the development of a personal opportunity engine. New opportunities translate with time into sought after skills, greater work experience and social capital, and, in some cases, additional degrees and credentials. The return on investment compounds over time.

2. **There is no substitute for real-world immersion and authentic learning.** As the takeaways in Report 2 note, most of the competencies in the MyWays Student Success Framework require an integration of higher thinking skills and real-world abilities. This principle is continued in the Part B reports as well as Report 11, *Learning Design for Broader, Deeper Competencies*. 
Despite many obstacles, many college-age students are aware of these principles, and, accordingly, they strive where possible to gain meaningful authentic learning and work experience, and to enhance their resumes (and personal opportunity engines). Let’s consider two approaches. Compare a student pursuing a traditional “bachelor’s or bust” strategy with another student pursuing an “opportunity engine” approach. The graphic below provides snapshots of each student’s opportunity engine at ages 12, 18, and 24, using the MyWays domain colors to illustrate both the development of the associated domain competencies and measurable progress in the four engine components.

The “traditional” student follows a standard, fairly rigid academic curriculum through age 12, with a focus on developing Content Knowledge competencies. While some related Creative Know How and Habits of Success are acquired along the way, there is very little opportunity for Wayfinding Abilities to grow. With scant authentic learning happening in middle and high school, by age 18, the opportunity engine focus remains on degrees and credentials. In the years between age 18 and 24, the traditional student has, hopefully, earned a degree but is just beginning to make material progress in the other three parts of the engine. Lacking in work experience, in-demand skills, and social capital, many traditional students end up underemployed or in jobs not closely related to their field of study — progressing horizontally for a time from modest job to modest job despite their degree.
The “opportunity” student, in contrast, follows a broader, whole-child, next generation learning curriculum through age 12, developing not only “college bound” Content Knowledge competencies but also strong Habits of Success and Creative Know How, while also gaining some early college/career exposure. By age 18, with much more authentic learning and work-related experience integrated with the academic curriculum, the “opportunity student” is already applying newly acquired competencies to develop all four blades of the opportunity engine. Building on this early foundation, in the years between age 18 and 24, the student is working not only on earning a degree but also on expanding and “banking” work experience, in-demand skills, and social capital connections.

There are as many ways to be an opportunity student as there are students. Some students do it on their own like Jacob (see box), who resolved to earn a degree without taking on debt. Students at the Cesar Chavez Public Charter Schools for Public Policy in Washington, DC, participate in Advocacy Projects at every grade level (middle and high school) that often help develop an area of passion and a balanced opportunity engine at an early age. Other students leverage a wide variety of career pathways programs: career and technical education (CTE), internships, community service, work co-ops, and many other forms of “leaving to learn” that can contribute to an opportunity engine. (See more on these options in the Wider Learning Ecosystem section of Report 11.)

Opportunity students are not only much better positioned for competing in employment, they are also developing career resilience through a portfolio of skills, credentials, work experiences, and social capital connections that they can reconfigure and retarget in multiple directions as the labor market shifts and new opportunities appear. In contrast,

### What’s an Opportunity Student?
The long, successful path of Jacob L.

The sixth of 11 children, Jacob received no tuition assistance from his family. He resolved to try to get through college without taking on debt.

He earned an associate’s degree (Liberal Arts) from Northern Virginia Community College in three years while teaching piano independently and doing volunteer youth work with his church.

Over the next six years, Jacob worked toward a bachelor’s degree at George Mason University. A working learner throughout this period, his work experiences teaching piano and voice, and directing choral groups, influenced an evolution in his declared field of study:

- **Initial:** English Literature major, with a minor in Theater
- **Next:** English major, with minors in Theater and Music
- **Next:** Dual English and Music major, with a minor in Theater
- **Final:** Music Education major, with a teaching license and minors in English and Theater

During this six-year period, Jacob’s course load and workload (work/learn mix) varied, based on course scheduling, work opportunities, and financial needs. In his final year, he took an $8,000 student loan (his only debt throughout these years) to finish in six years instead of seven.

Active throughout the entire nine-year period of teaching and theater/music productions, Jacob cultivated robust social networks with advocates who not only helped guide and influence his education and internships, but also his selection for a coveted music educator and choral director position in the Prince William County Public Schools.

Reflecting on his experience as an opportunity student, Jacob believes that the work/learn synergies were far more valuable to him than the avoidance of debt, although that was also important. The chance to apply what he was learning immediately in his work and volunteer activities made him a much more effective and durable learner. In addition, he was able to turn a general (and largely ill-defined) English Literature major into a Music Education field of study that perfectly matched his emerging sense of self, strengths, and competitive advantage.
many traditional students invest so single-mindedly on earning a degree that they have very low career resilience. And, as we will see later in this report, the number of students with “some college but no degree” is at an epidemic level. Often these students end up in low-paying jobs, no better off than high school graduates with no college, despite being saddled with significant debt. And, because most some-college/no-degree students are from poor and low-income families; they are casualties of the widening opportunity gap.

Work/learn readiness and the 5 Decisions

To date, our education system has not adjusted to the new level of work/learn readiness these new dynamics demand (Report 1). As a result, in an era where a postsecondary degree or credential is increasingly important, nearly three-quarters of those from the most advantaged families earn one while only about one-third from the least advantaged families do so.\(^\text{14}\)

Later in this report, we look more closely at the 5 Decisions in navigating the work/learn landscape and their relationship to the opportunity gap. While each decision or question applies broadly to every student, the options and opportunities available to individual students reflect not only their personal effort and accomplishments but also their geographic, socioeconomic, and racial circumstances. As students work on the Decisions, the results of those decisions accumulate and compound in their opportunity engines, shaping future opportunities. Academic preparedness remains an important factor today as we explore in the following section, but it is no longer sufficient. Today, every young person requires the capability and agency — across a wide set of competencies — to make well-informed, smart Decisions.

As the graphic on the following page illustrates, the 5 Decisions sit at the center of the 5-5-5 Realities described in Reports 2–4. Like the 5 Decisions, the 5 Roadblocks to bootstrapping a career and the 5 Essentials in building social capital apply to all young people from those who have not completed their high school requirements to high school grads entering the workforce directly without immediate postsecondary education to college-goers. As young people leave high school (with or without a degree), the 5 Decisions should be at the center of their attention as they make plans for postsecondary education and work, and the varied personal, financial, and social resources they will need to be successful.

Applicability aside, the impact of these Realities is most severe on the least advantaged young people. With that in mind, we hope this research will aid next generation educators in reimagining traditional college and career preparation and thinking holistically about the competencies and supports that students need to overcome these 5-5-5 challenges and successfully navigate the work/learn landscape on their way to rewarding careers.
Getting smart about the low rate of academic preparedness

Only one-third of US high schoolers are academically prepared for college, according to college readiness analysis from Closing the College Gap.\(^1\) If, as educators, we strive to help every student make savvy work/learn Decisions, we need to begin by unpacking statistics like this one and tracing the longitudinal patterns connecting postsecondary outcomes back to high school academic, family, or social characteristics — are there high school “inputs,” for example, that help explain these outcomes?

- Three-quarters of high school graduates enroll in some form of postsecondary program within a year or two of graduating; however, Pathways to Prosperity notes that “only about 4 in 10 Americans have obtained either an associate’s or bachelor’s degree by their mid-twenties.”\(^2\)

- Just 56% of students at four-year colleges earn a bachelor’s degree within six years and, at community colleges, “fewer than 30 percent of students manage to earn an associate’s degree ‘on time’ (meaning within three years).”\(^3\)

- Nearly half of community college students fail to earn any credential, falling into the some-college/no-degree group who rack up debt with little or no added income to show for it, according to a study by the William T. Grant Foundation.\(^4\)
These dismal outcomes mask “important differences among various populations of students”\(^1^9\) when segmented by level of academic preparedness. Within each high school cohort are three groups of students of approximately equal size with dramatically different high school performance, demographic characteristics, and prospects for the future.\(^2^0\)

**Academically prepared**\(^2^1\)

Just over one-third of students have the grade point average and completion of a college-ready curriculum to successfully complete college work without remedial (developmental) courses. This group is overwhelmingly white and from higher SES families. Only about 1 in 10 are from poor families living below the federal poverty level, compared to over 4 in 10 in the general population. Students of color represent 48% of all students, but only 15% of academically prepared students. The vast majority of academically prepared students go to college but, as discussed below, their college choices and degree attainment rates vary by family SES.\(^2^2\)

**Not fully prepared**

While the bulk of this middle group enroll in a postsecondary program, there are warning signs that they may struggle to succeed with college-level work. Many have a C (or D) grade point average\(^2^3\) and few complete a rigorous college-ready curriculum.\(^2^4\) When they get to college, more than two-thirds will require remedial courses.\(^2^5\) A disproportionate number of low-income students and students of color are represented in this group, with significant work and financial pressures that add to their challenge to earn a degree. Despite their struggles, these students are “in the game” — striving to improve their prospects through education.

**Not academically prepared**

This final group includes students dropping out of high school (17% in 2015) and high school graduates with low GPAs who have not completed a college-ready curriculum. The vast majority of these students do not enroll in a postsecondary program following high school and are at risk of being unemployed or trapped in low-skill, low-paying jobs. More than two-thirds of this group are low-income students or students of color.\(^2^6\)

The epicenter of the widening opportunity gap are these three clusters, or starting positions, from which high schoolers take their first steps into the work/learn landscape — with profoundly different probabilities for postsecondary degree attainment, employment, and economic mobility. Academic preparedness is not destiny but, without doing more to equip students to build a future through sound work/learn choices, it is more deterministic than it could and should be. Furthermore, the labor market shifts described in the 5 Roadblocks favor young people who invest in their skills and work experience while leaving others behind. There are many paths to opportunity and while postsecondary degrees and credentials play an important part, few students — fewer than a quarter — make a clean, straight transition from high school to college to gainful employment. Instead, the majority experience one twist and turn
after another as they wrestle with the 5 Decisions and attempt to arrive, survive, and thrive in the work/learn landscape.

(For a discussion of the difference between college readiness and work/learn readiness, see Report 1.)

With the bulk of low-income students and students of color among the not fully prepared and not academically prepared groups, one national priority should be to increase the number who are academically prepared and college ready. Modest progress has been made since the enactment of No Child Left Behind in raising high school graduation rates and college readiness among these groups, despite what many educators see as an excessive and distorting focus on standardized testing and resulting narrowed curricula. Nevertheless, increasing academic preparedness is not the same as work/learn readiness (see Report 1) and there is ample evidence that proficiency on state exams in high school does not signal adequate preparation to persist and succeed in college. With two-thirds of US high schoolers not academically prepared for college work, and many of those who demonstrate academic preparation not fully ready in other respects, we need to create new learning progressions, structures, and alliances that will enable all young people, regardless of which starting gate they enter, to run the race in a way that draws on their individual aspirations and assets, and their capability for self-development and adaptation. In short, all students need to become opportunity students and schools and communities must support and empower them to do so.

Alternatively, if we maintain the status quo approach to K-12 and postsecondary education, poverty and related racial disparities will increase and the US will solidify, as Robert Putnam fears, into a permanent two-tier society of winners and losers. (See income and ethnicity graphic below.)

![US children under 18 by family income and race/ethnicity, 2014](chart.png)

Percentages may not add up to 100 due to rounding.

Note: Above low income is defined as at or above 200% of the federal poverty threshold (FPT), poor is defined as below 100% of FPT, and near poor is between 100% and 199% of the FPT. The low-income category includes both the poor and the near poor. Source: Basic Facts about Low-Income Children. NCCP. 2014. p. 1
The road ahead for the academically prepared

While every individual student’s ability and opportunity is unique, these three groups provide extraordinary insight into the types of choices and challenges each will face in navigating the work/learn landscape. Among academically prepared students, for example, a priority is to equip low-income students and students of color with the competencies and support systems to fully take advantage of their postsecondary options. Only 9% of high achieving (top quartile) high school students are from the lowest socioeconomic (SES) quartile.\(^28\) Accordingly, achieving greater parity for low-income high achievers remains a worthy K-12 objective. However, Falling Out of the Lead, Following High Achievers Through High School and Beyond, a longitudinal analysis by The Education Trust, reveals that low-income high achievers need much stronger work/learn competency and more support to avoid falling behind their more well-off peers: more than 1 in 5 don’t go to college at all, four times the rate of high achievers from advantaged families; when they do go, they are only half as likely to attend a moderately or high selective four-year school; and “only 16% attend... a highly selective college, compared with 46 percent, nearly half, of high-SES students.”\(^29\) Great credit should be given to the schools, colleges, states, foundations, and youth-serving organizations who currently provide a wide array of scholarship, mentoring, and academic programs exist to support low-income high achievers. Yet the shift from middle-skill to high-skill jobs is unrelenting and the stakes are ratcheting up. Low-income high achievers need a good balance of Wayfinding Abilities, Habits of Success, Creative Know How, and deeper Content Knowledge to counter the slippage occurring after high school. Our hope is that the MyWays Project helps articulate both the competencies as well as the pathways to postsecondary opportunities, employment, and social capital that these students need to succeed.

The road ahead for the not fully prepared

Students not fully prepared for postsecondary work are “in the game” but face a dizzying, and in many ways, the most complex set of work/learn choices and tradeoffs of the three groups. The largest number of some-college/no-degree students emerge from this group saddled with debt and no income benefit to offset it. Giving these students better tools (competencies, pathways, and supports) to better identify and evaluate their work/learn options is badly needed to reduce the frequent failures that are common today. Students in the not fully prepared group successfully earn a high school diploma — a critical achievement in today’s labor market — but a great number have C or D grade point averages. (Over 60% of all low-income students have C or D GPAs compared to just 21% of high-income students.) In addition, few complete a college-ready high school curriculum. As a result of their GPA and curriculum weaknesses, most require remedial course work — an expense in time and money that few can afford. A large number

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<table>
<thead>
<tr>
<th>Percent of high school graduates with C or D grade point averages</th>
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<tbody>
<tr>
<td><strong>Black</strong></td>
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<tr>
<td><strong>Low-income</strong></td>
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<tr>
<td><strong>Latino</strong></td>
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<tr>
<td><strong>White</strong></td>
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<tr>
<td><strong>High-income</strong></td>
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Source: 2013 data reported in Closing the College Gap, 2016
of these students are also working, not only for the experience but because of financial necessity. Historically, many not fully prepared students found entrees into middle-skill jobs and then, by demonstrating their ability and work ethic, they advanced to greater postsecondary degree attainment (perhaps starting with a certificate and ending with a bachelor’s degree) and a higher skill job. However, today the middle-skill jobs that previously gave many of this group their start are undergoing substantial transformation: there are fewer middle-skills jobs available to young people and more education is required to secure them. (For more on this, see Report 2.) For this group especially, “more is on you” and the key to success is likely to be the ability to craft incrementally over time — through learning and working — an attractive opportunity engine of in-demand skills, work experience, degrees and certificates, and social capital.

The road ahead for the not academically prepared
Few middle-paying jobs exist today for those without some postsecondary education — at least an associate’s degree or a high-quality certificate. Therefore, students who are not academically prepared when they leave high school will likely find themselves in the world of low-skill, low-paying jobs until they can develop marketable skills, either in the workplace or through some postsecondary education. About half of this group leave high school without a diploma. Fortunately, that number is dropping and in 2012, the US reached a milestone with eight out of 10 high school students graduating on time. “Black and Hispanic/Latino students made the greatest gains — 9 and 15 percentage points, respectively — in high school graduation rates... between 2006 and 2012,” according to Building a GradNation, 2014. The percentage of all low-income students graduating in 2014 was 75% compared to 89% of non-low-income students. This rising trend in high school graduation rate is significant because 86% of high school graduates attend college within eight years, a percentage that includes half of high school seniors who graduate without plans to attend. Even among students not academically prepared, work/learn readiness is a must along with avenues to low-skill jobs that can serve as a stable, short-term beachhead for absorbing the realities of the work/learn landscape and finding a path toward higher skill, higher-paying jobs.

In summary, with the labor market shift toward higher skills, academic preparedness gauged at the high school level is an increasingly important as an indicator of college readiness and future success. However, it is not the determining factor. While the starting gate you are in is important, family income and education, race and ethnicity factors, and regional and cultural effects also influence who is and is not college ready and the divergent outcomes of young people within each group. For example, as Falling Out of the Lead concludes, low-income high achievers on average make very different choices with very different outcomes than their more advantaged peers. Getting smart about academic preparedness means recognizing that all students, regardless of group, need to be empowered with work/learn readiness to
identify and plot their moves in the work/learn landscape — while educators also seek new ways to boost academic preparedness through broader, deeper competencies. *Closing the College Gap* summarizes the work ahead:

> Creating strong pathways to and through postsecondary education, especially for the students who are currently disproportionately underrepresented in higher education, is essential to breaking the cycles of poverty and disenfranchisement that plague our society and stop our nation from eliminating persistent educational, social, and economic gaps.  

For additional data and analysis, see the aforementioned data digest, *Understanding the Postsecondary Years*.

Regardless of which group a young person occupies, there are 5 Decisions they will face as they navigate the work/learn landscape. We summarize our research on these decisions next, starting with Decision 1, “Plotting a path to entry and advantage.” Within each Decision, three key trends or issues are discussed — presented as responses to a series of questions that students might ask. Responses summarize salient information but do not provide answers, which depend on the circumstances and aspirations of individual students.

**DECISION 1. Plotting a path to entry and advantage**

“*Students possessing fewer academic skills (no matter what their family backgrounds) or growing up in less well-to-do families and communities, often face narrow and poorly maintained pathways full of potholes, detours, and missing road signs.*”

—Creating Pathways to Prosperity: A Blueprint for Action
Harvard Graduate School of Education

As we will see shortly, top academic students are likely to succeed in college. The far more difficult “path to entry” decision is the one confronting students who are not academically prepared or not fully prepared. *How big a bet should I make on further education? Should I strive for a two- or four-year degree, or pursue shorter-term training or self-directed learning that might help me land a middle-skill job? What are the short- and long-term benefits of attending community college or a for-profit technical school, or a school away from home where employment prospects are better? Assuming I earn a degree or certificate, how will I get employment and how can I advance? Should I work while in school, or, should I go to work first and think about college later?*

These questions are tough enough on their own, but they must be answered together with the other Decisions — balancing the work/learn mix, vetting postsecondary providers, figuring finances and risks, and learning how to cultivate social capital. Meanwhile, like the labor market, postsecondary education is evolving, offering more choices but becoming more fragmented and complex, and dramatically more expensive. The ability to make smart, mature decisions and follow through on a plan, despite being a
young person with limited experience, underscores the importance of developing broader and deeper competencies long before leaving high school.

We began this report by describing the navigation of the work/learn landscape today as a wicked problem, full of complexity and uncertainty. The high proportion of working learners is just one aspect of this phenomenon. Another is the growing variety of postsecondary programs and modes of delivery. Accordingly, the first question we explore pertains to the evolution of the work/learn landscape, followed by questions about degree attainment rates at various types of postsecondary institutions and the relationship between postsecondary education and future income.

**What should I know about the intersection and evolution of postsecondary education and the labor market that you call the work/learn landscape?**

As the graphic below conveys, there are far more fields of study, learning modes, and education providers for young people today than ever before. In addition, most young people are now working learners who have entered the workforce for financial reasons, work experience, skill building, or networking. High schoolers must now select a path to entry (and later, a path to competitive advantage) from an ever-
widening range of options and combinations. Further, throughout the wayfinding decade, Decision 1, Plotting a Path to Entry & Advantage, remains the cardinal decision within the 5 Decisions dashboard and options for navigating the work/learn landscape to reach a progression of personal destinations and goals.

The work/learn landscape includes:

- **Formal degree and certificate programs**
  Traditional two- and four-year college degree programs continue to proliferate and specialize with huge differences in program, approach, quality, and cost. For-profit and online colleges have aggressively entered the postsecondary degree market with highly variable results. Employer training programs have increasingly been replaced by a wide array of short-term industry certificate programs with costs shifting from employer to individual. Rising tuition costs have stimulated a vocationalization trend. Opportunity students will have to search harder, but can find a small number of forward-looking college options: degrees that include coop programs, are project-based, offer well-structured internships or undergraduate research work, or offer competency-based degrees, sometimes incorporating accreditation of prior learning.

- **Traditional jobs and the on-demand workforce**
  Young people’s employment opportunities are influenced by the 5 Roadblocks (Report 2): an anemic labor market for under-30s, the acceleration of automation, the shift to alternative work arrangements (contract, temp, gig, and freelancing), an increasing bias to hire experience over potential, and the hiring labyrinth caused in part by computer-driven hiring systems. Middle-skill jobs that have traditionally given young people a good start are the jobs most impacted by change. As a result, many working learners are employed in the retail and food service sectors gaining less valuable work experience than is ideal.

- **Apprenticeships, internships, co-ops, and on-the-job learning**
  Apprenticeships, internships, and similar opportunities are in hot demand that far exceeds supply. Formal paid positions are fewer, replaced by unpaid positions. One apparent trend is the rise of intermediary organizations who catalyze and coordinate many internship and other work placements. Robert Putnam notes that the US once had a much larger and more vibrant vocational education system but today spends only a tenth the amount invested by other countries. The US also lags behind other countries in both number of apprenticeships offered and sectors that offer such experiences but there is some uptick in parts of the country.

- **An explosion of new learning and working modes**
  The Internet has helped spur the proliferation of free and low-cost learning tools and resources. Vast online treasuries of knowledge now include online courses, tutorials, instructional videos, MOOCs, learning games, as well as reading and listening material. Community-based learning networks like LRNG and Hive are organizing rich cultural and institutional assets and relationships to create learning experiences from local experts. A national maker space movement is now present in many cities. The short, intensive “bootcamp” approach to learning to code has spread to other fields and sectors, with organizations like General Assembly and Quality.
Interactions addressing skills gaps in in-demand skills like design thinking, marketing, data analytics, cultural competency, and career development. For an interesting analysis of emerging work and learn options, see the ACT Foundation’s The New Learning Economy and the Rise of the Working Learner, particularly its Work-and-Learn Framework. These opportunities for meaningful individual learning, much like the related Wider Learning Ecosystem that is sprouting at the K-12 level (Report 11), has sparked a new movement in competency-based learning and credit-awarding systems geared to individual accomplishment rather than seat time.

- **Increasingly vital communities of support**
  Community-based learning networks are just one example of communities of practice and pathway organizations that are fostering learning-to-work pathways for young people. Community colleges with strong industry connections, career and technical education programs, and inclusive industry associations are our oldest forms but many new permutations are taking hold: social entrepreneurs are creating training-to-work pathways; temp agencies are leveraging their knowledge of employer demand by offering their own training programs; psychologists and youth development professionals are teaming to offer high-touch pathways targeting youth re-engagement. One promising new model is Skillful, a Colorado collaboration led by the Markle Foundation to connect young people to good paying middle-skill jobs. Another is TechHire which has grown to over 70 communities. These communities of support are building bridges between young people and employers; fostering peer and mentoring relationships; and helping build social capital.

- **Coming (can’t be soon enough!): better tools to help young people make work/learn decisions**
  The proliferation of programs and providers in the work/learn landscape — many so new they lack proof of efficacy — has significantly increased confusion and difficulty in identifying and exploring options for a path of entry or longer-term career fits. That confusion is now partially amplified, ironically, by an explosion of guidebooks, apps, websites, and matching services dedicated to college and career planning. Yet solid, reliable data on regional labor market trends, occupational opportunities, and educational providers remains hard to find. As Georgetown outlines in Career Pathways, next generation initiatives are needed to analyze and project the skill requirements within regional economies; align educational programs and curricula to those needs; and build career (and retraining) pathways, counseling support; and job placement tools. The report provides examples of pioneering state initiatives to improve data and advisory tools. Meanwhile, Credential Engine, a nonprofit alliance led by Lumina, George Washington University, the Business Roundtable and others, is working to tame the burgeoning credentials sector through the creation of a credential registry that will enable job seekers, students, workers, and employers to search for and compare thousands of credential programs through the Workit search app, to be launched December 2017. Hopefully, these few examples represent a trend that suggests we will see smarter systems emerge to aid young people along with much greater regional and local collaboration between K-12, postsecondary, and business organizations.

With so much change and expansion bubbling up in the work/learn landscape, it is no wonder that Learning While Earning observes that it takes much longer today for young adults to launch their careers,
calling what we have named the *wayfinding decade* “a new phase to the lifecycle.” Accordingly, young people are urged by Peter Cappelli to think of a career as a marathon, not a sprint. *But where to start? What is the best path to entry and (later) competitive advantage?*

For most students, the question is no longer whether to “go to college” in the broadest sense — 86% of high school graduates now eventually enroll in a postsecondary program. But, as Peter Cappelli notes about rising postsecondary attendance, “how this translates into graduates is a more difficult question.”

How big a bet to place on enrolling in a four-year institution, for example, should depend on students’ level of academic preparation as well as their other competencies and assets, the clarity of their aspirations, and the future prospects and opportunities in their region. Hoffman and Casnocha use these three dimensions — *assets, aspirations, and market realities* — to frame the broad question of *where to start.* Earlier in the report, we note that young people go through three phases — *arrive, survive, and thrive* — on their way to success and that the competencies required build over time and require real-world immersion and authentic learning. A path to entry must balance short-term tactics to *arrive* (earn a credential, land a starting job) with long-term strategies to *survive* and *thrive* (grow and advance). Accordingly, we contrasted a traditional student focused primarily on earning a degree, with an opportunity student working to build a balanced, personal opportunity engine that offers the *career resilience* to reconfigure and retarget one’s goals and plans as the employment market inevitably shifts and new opportunities appear.

Figuring all this out is incredibly hard for adults, and doubly so for young people. Finding the perfect fit between aspirations, assets, and market realities is an exercise familiar to experienced entrepreneurs but, for most people, involves significant difficulty and error. Trying to do it while enrolled in college, paying tuition every semester, and tacking from here to there can be like being lost in a cab with the meter running. Or, as the quote at the beginning of Decision 1 puts it, like facing “narrow and poorly maintained pathways full of potholes, detours, and missing road signs.”

**Inventing and charting new pathways through the work/learn landscape**

One place to begin is to provide students with real-world experiences and the opportunity to build their capability and agency through authentic learning and problem solving (See Report 11). Next generation middle school and high school learning rich in real-world experience and the development of broader, deeper competencies is the best preparation students can have as they craft their paths to entry.

A second point of emphasis should be the differing abilities and needs of the three groups of students segmented by academic preparedness. The longitudinal data suggests that:

- The third of high schoolers who are academically prepared for college have a high probability of earning a postsecondary degree or credential, even the small subset from lower income families.
- Far too few of the remaining high schoolers — those not fully prepared or not prepared, including the vast majority of low-income students and students of color — are receiving the additional
support for work/learn readiness (Report 1) to successfully pursue a path of entry that acknowledges and overcomes their lack of academic preparation.

As Report 2 makes clear, the 5 Roadblocks to the labor market challenge every student; nevertheless, one’s options and hurdles are deeply impacted by academic preparedness and socioeconomic status. Students who enroll in college but end up with “some-college/no-degree,” an all too common occurrence discuss below, might go farther starting down an alternative path to learning and work. Helping young people to identify promising and practical pathways around and through the potholes and detours, give their level of academic preparedness, is critical work.

Finally, given the number of students who enroll in a postsecondary program only to fail, there are times when a young person should perhaps slow down and take some smaller, incremental steps rather than going “all in” on an expensive, potentially risky multi-year degree program. Cappelli emphasizes that one of the most valuable features of the US system of postsecondary education is its fluidity — full of entry points and second chances — “one is never out of the opportunity to go to college.” However, our system of mapping and describing those opportunities and pathways for young people is wholly inadequate as is the level of real-world experience and work/learn readiness that students receive.

While Cappelli uses fluidity to characterize the formal postsecondary education system, the word is also apt with respect to the world of informal, yet rigorous, learning. The same technological and economic changes that are restructuring the labor market and college sector have sparked a revolution of self-directed, just-in-time learning that is now a core part, not only of career advancement, but of work itself. For example, Haydn Shaughnessy, a specialist on technology’s impact on the economy, describes work in the digital age as a never-ending balance of pitching new work, developing new ideas to pitch, finding people to collaborate with, reading relevant insights, and delivering proposals and products. Our learning paradigm has changed from periodic formal episodes to continuous, real-time learning. In an example of art imitating (and extrapolating) life, in the movie The Matrix, a helicopter sits on the roof of a building, the only plausible escape for our heroes. Neo asks Trinity, “Can you fly that thing?” “Not yet,” she replies, then pulls out her cell phone and orders a helicopter pilot program to be instantly downloaded to her brain. We may not have the download part figured out yet, but fluid, real-time, self-directed learning is nearly as accessible today.

Young people today have free or inexpensive access to myriad online learning resources as well as local and online communities of practices through which they can acquire specific in-demand skills. While these skills do not replace a general education, they can be instrumental as stepping stones into the workplace and into professional life. To spotlight just one example: Lynda.com was founded by a graphic designer with tech skills, Lynda Weinman, to teach other graphic designers the maddeningly complex world of early web design and HTML coding. Today, it offers 6,000 online tutorials in business,
technology, and creative skills, taught by industry experts, with unlimited access for $20 per month. For a list of other similarly accessible online learning platforms including EdX, Coursera, and Khan, click here.

We look next at degree attainment patterns before exploring the link between education and future income.

**Which postsecondary path gives me the best chance to earn a degree or credential?**

Of course, the answer to this question depends on each student’s individual circumstances; however, some broad degree attainment patterns are instructive.

*Closing the College Gap* highlights that the US has reached an historic milestone: nearly half of today’s young adults age 25 to 34 have an associate’s degree or more—a 50% increase since 1990.

At the same time, there are an equal number of young people not attaining a postsecondary credential. Our college dropout rate is the highest of all developed countries. In today’s broken system, only 56% of US students enrolling in four-year colleges graduate within six years. Furthermore, according to *Pathways to Prosperity*, “at community colleges — the nation’s largest post-secondary system — fewer than 30 percent of students manage to earn an [associate’s degree] degree ‘on time’ (meaning within three years).”

One important factor in these low attainment rates is an increase in postsecondary enrollment of recent low-income high school graduates which has climbed from less than 40% to nearly 60% over the past 30 years, from 1985 to 2015. Growing attention on college persistence originates in this trend. By contrast: enrollment by recent high school graduates from the highest quintile of household income has remained flat since the mid-1990s, with a significant 24-percentage point gap existing in 2015 between enrollment of the most advantaged students (82%) and low-income graduates (58%).

Another important pattern concerning postsecondary paths is the rise in certificates and associate’s degrees which comprise a growing share of postsecondary attainment, reaching 39% in 2010, more than
double the share (18%) in 1970. In comparison: bachelor’s degrees comprised 41% of the total in 2010 with advanced degrees accounting for the remaining 20%.

Certificates and other stackable credentials are expected to expand dramatically over the next decade. The hopeful upside with respect to certificates is the promise of shorter, lower-cost on-ramps to middle-skill jobs — and an alternative to an all-or-nothing bet on a two-year or four-year degree, especially for students not fully prepared for college, for low-income students concerned about debt, and for young people wanting some hands-on experience or an opportunity to explore an occupation before making a total commitment. In addition, certificates may, in some cases, be the fastest path to newly created jobs in emerging industries. On the other hand, certificates entail two significant risks: uncertainty about the quality of instruction and the economic value that employers will place on certificates. Cappelli notes that many employers use credentials as signaling/screening devices to filter applicants. Ultimately, the value of a certificate is in the doors it can open, as well as the education and skills it conveys on the learner. As we discuss below in Decision 3, “Vetting Postsecondary Providers,” half of all certificates are now issued by for-profit institutions with very mixed results. For more on the pros and cons of stackable credentials, read “Stepping Stone or Off-Ramp?” by Paul Fain at Insider Higher Ed.

At one time, people had three basic options: enroll in a four-year program, attend a community college, or enter the workforce. With the explosion of certificate programs, postsecondary providers cater to a diverse student population with myriad programs theoretically designed to serve students at all levels of academic preparedness. Ideally, there is a program that fits each student, but finding and vetting programs with good academic and employment outcomes is much easier said than done. Credential Engine’s Workit search app may help here, but schools and communities need to do much more to research, vet, and present these potential paths to entry. As former US labor secretary Robert Reich puts it, “We desperately need to revive a second route to the middle class for people without four-year college degrees, as manufacturing once was. We have to move toward a system that works.”

Meanwhile, as we examine next, the choice between a two-year and a four-year institution remains a critical one.

On average, four-year institutions have higher degree attainment than two-year institutions

Attending graduation ceremonies at the nation’s best community colleges can warm the heart and restore faith in the American Dream. Families of every race and ethnicity are there. Parents of first-generation graduates beam with pride. Certificates and degrees are awarded in dozens of specialized fields aligned with local workforce needs. Bridges to four-year bachelor’s programs are announced. Even students not academically prepared leaving high school may re-engage and reinvest in their education through special community college programs designed for life-changing transitions. Our best community colleges are achieving remarkable results.

The point here is that the quality and outcomes of local postsecondary institutions are more important than national statistics. That said, deciding between a two-year and a four-year school is one of the key choices in plotting a plan for entry. Numerous factors can influence the personal fit of one versus the
other, but aggregate outcomes for all two-year institutions compared to outcomes for all four-year institutions do offer lessons. One reason this choice is so important is the low overall degree attainment of low-income students and students of color:

Only 14 percent of 2004 high school graduates from families in the lowest quartile of social and economic status earned a bachelor’s degree or higher and 35 percent received a postsecondary degree or certificate. —Closing the College Gap

In contrast, students from high SES families earned bachelor’s degrees at four times the rate. Only 3 in 10 black students and fewer than 1 in 5 Latino students earn an associate’s degree or higher by their mid-20s. Academic preparedness is certainly a large factor here, but other contributors are the choice of college — including higher rates of enrollment at open-access colleges, two-year schools, and for-profit institutions, all of which have lower degree completion rates — as well as work, financial, and family pressures. Two excellent studies have attempted to inform this question using Educational Longitudinal Study (ELS) data on a representative sample of students who were tracked over the eight years that followed their 2004 high school graduation. The first study, by the College Board, is Education Pays 2016. The second, from the William T. Grant Foundation, is The New Forgotten Half. (A third report, Closing the College Gap, which we quote regularly, also uses data from the ELS.)

Both studies began with the same top-level question: What proportion of high school graduates will receive a college degree or certificate if they enroll first in a two-year college versus a four-year college? Across all students, 59% enrolled first in a four-year college and 37% enrolled first in a two-year college (another 4% enrolled in other postsecondary institutions and are not part of this analysis). Without controlling for academic preparedness or family SES (discussed below), the degrees earned and the overall student composition at two- and four-year institutions are as follows:

<table>
<thead>
<tr>
<th>Postsecondary outcomes of high school graduates who enrolled in college immediately, tracked over eight years (2004–2012), along with their characteristics</th>
<th>Initially enrolled at two-year school</th>
<th>Initially enrolled at four-year school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s Degree or more</td>
<td>20%</td>
<td>67%</td>
</tr>
<tr>
<td>Associate’s Degree</td>
<td>16%</td>
<td>5%</td>
</tr>
<tr>
<td>Certificate</td>
<td>17%</td>
<td>5%</td>
</tr>
<tr>
<td>Some College (no degree)</td>
<td>46%</td>
<td>22%</td>
</tr>
<tr>
<td>High academic</td>
<td>23%</td>
<td>58%</td>
</tr>
<tr>
<td>Middle academic</td>
<td>40%</td>
<td>32%</td>
</tr>
<tr>
<td>Low academic</td>
<td>36%</td>
<td>11%</td>
</tr>
<tr>
<td>High family SES</td>
<td>29%</td>
<td>55%</td>
</tr>
<tr>
<td>Middle family SES</td>
<td>36%</td>
<td>28%</td>
</tr>
<tr>
<td>Low family SES</td>
<td>34%</td>
<td>16%</td>
</tr>
</tbody>
</table>

As the table shows, 67% of high school graduates enrolling immediately after high school in a four-year school earned a bachelor’s degree within eight years, with 78% earning some type of postsecondary credential. Of those enrolling at a two-year school, 20% earned a bachelor’s degree (perhaps after a transfer), with 53% earning some type of postsecondary credential. Many postsecondary students failed to earn any degree or certificate: 22% of students initially enrolled in a four-year institution immediately after high school fell in the some-college/no-degree category, along with an alarming 46% of those who initially enrolled at two-year schools:

Our most striking finding is that many community college students attain no credentials…. Although many community college students have discovered and attained sub-baccalaureate credentials, almost half (46 percent) have no credential eight years after high school. [emphasis added] —The New Forgotten Half

Nearly half of the some-college/no-degree group completed one year of college or less; more than a third completed two years of college; and one in five completed three or four years of college without finishing. An important consideration is the extent to which better Habits of Success and Wayfinding Abilities might change these outcomes, even when academic competencies (Content Knowledge) are weak.

Of course, differences in outcomes between two- and four-year institutions are more useful when analyzing the composition of students selecting each option. According to Closing the College Gap, about 40% of the high school graduates enrolling in two-year institutions had college readiness profiles similar to students who enrolled in four-year colleges, leaving significantly more than half that were less prepared. The College Board segmented the data by academic quartile, family socioeconomic status (SES), and two-year/four-year entry. The chart below reports its data for both the highest academic quartile (roughly aligned with our “academically prepared” group) and the lowest academic quartile (a portion of our “not fully prepared” group). (Because the ELS includes only those enrolling in a postsecondary program, the “not academically prepared” group is largely excluded.)

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Although many community college students have discovered and attained sub-baccalaureate credentials, almost half (46 percent) have no credential eight years after high school.

—The New Forgotten Half
The most striking pattern in the data is that academic preparedness influences postsecondary outcomes to a much greater degree than family SES or two-year/four-year entry (in contrast to the K-12 level where family SES and academic achievement are closely related). At two-year schools, more than 60% of students in the highest academic quartile earn an associate’s degree or better regardless of family SES; at four-year institutions, that figure is 80% with almost all earning bachelor’s degrees. Two-thirds of top academic students initially enrolling in two-year institutions went on to earn bachelor’s degrees. It is striking and somewhat counterintuitive to note that among top academic students at both two-year and four-year schools, family SES had little effect on degree attainment.

Results are far more mixed among students in the lowest academic quartile, putting in stark relief the difficult 5 Decisions for this group of not fully prepared young people. Fewer than half of these students earned degrees, regardless of family SES or two-year/four-year entry. According to The New Forgotten Half, 46% of all students entering community colleges end in the some-college/no-degree category.

Measured by degree attainment alone, students in every academic and SES subgroup who started at a four-year institution had better outcomes. On the other hand, the diversity and flexibility offered by community college may be a better fit for many students — including those who want to work in a middle-skill job as soon as possible (and are, therefore, attracted initially to a one-year certificate or two-year associate’s degree); students who want to spend less time in school; students who want a significantly less expensive postsecondary degree; and those who are not ready to make a four-year commitment.
Degree attainment rates varies widely among two-year institutions including community colleges and for-profit schools. Many community colleges across the country offer extraordinary, innovative programs that help change lives and foster economic mobility. Because many of these community colleges have deep ties to regional employers, they can be indispensable partners to next generation schools seeking to engender more work-based and authentic learning experiences.

Overall, degree attainment was higher, on average, at four-year institutions for every academic and SES subgroup. The burning question remains however: *What is the best plan of entry and advantage for the two-thirds of high schoolers in the not fully prepared or not academically prepared groups?* This is where our most innovative postsecondary institutions are successful — and other institutions are not. Two highly respected US community colleges provide examples of the “secret sauce” it takes to address this population: at **Guttman Community College** in New York City all students take a year-long course in the Ethnography of Work, learning about the nature of jobs and the role of social networks, and at **Lake Area Technical Institute** in Watertown, South Dakota, curriculum input from more than 300 regional businesses resulted last year in 99% of its students entering the workforce or going on to four-year colleges.

To summarize these findings, for the majority of new high school graduates, “going to college” and selecting a two-year or four-year institution is the heart of their plan for entry. Academically prepared students have a good chance to earn a degree at both two-year and four-year schools; however, more than 50% of students in the lowest academic quartile will likely end up with some-college/no-degree. For these students, the quality and fit of local postsecondary institutions and programs, regional prospects for middle-skill jobs, and opportunities while in school to build a balanced, compelling opportunity engine should all be important parts of plotting a path to entry and advantage.

As we describe in the following section, there is a vast difference in terms of both the employability and income of an associate’s degree earner compared to an individual with “some college but no degree.” **Pathways to Prosperity** reports that, nationally, there are two “some college” individuals for every one associate’s degree holder. Keep your eye out for this “some college” category as we proceed.

**How will my postsecondary education translate into employability and future income?**

We now summarize the impact of education attainment on individual employment and income prospects. These data are historical and, given rapid changes in the labor market, the patterns may vary in the future.

**Earning a degree increases prospects for employment**

Degree holders enjoy much higher employment rates than high school graduates and those without diplomas, in part because more-educated workers are frequently underemployed, displacing less-educated workers when labor demand is slack. Accordingly, among young people age 16 to 24 who are not enrolled in school, 85% of bachelor’s degree holders are employed (see table next page) compared to 78% of associate’s degree holders (or those with some college), 65% of those with a high school diploma only, and 45% of those without high school diplomas.
Percentage of young people (age 16–24) not enrolled in school who are employed, by educational attainment, 2014

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s degree or higher</td>
<td>85%</td>
</tr>
<tr>
<td>Associate’s degree or some college</td>
<td>78%</td>
</tr>
<tr>
<td>High school diploma only</td>
<td>65%</td>
</tr>
<tr>
<td>No high school diploma</td>
<td>45%</td>
</tr>
</tbody>
</table>


During the economic recovery (2010–2016), workers with a bachelor’s degree held a sizable advantage over less-educated workers. *More than 70% of all jobs — and 80% of all middle-skill jobs — created in the recovery have gone to those with bachelor’s degrees or higher.* Holders of associate’s degrees or some college filled another 27% of all jobs during this period, including almost half of the low-skill jobs. The number of jobs held by those with a high school diploma or less remained flat. As one study summarized, “Those with the most years of college were the last fired in the recession and the first hired in the recovery.”

**Median income increases with education; HOWEVER, there is a wide variation at each and every level.**

The Brookings Institute has noted that median income increases roughly 10% for each year of postsecondary education. According to the Pew Research Center, median annual earnings for bachelor’s degree holders rose slowly from $42,000 in 1979 to $46,000 in 2013 (in 2012 dollars), a modest 10% increase. However, over the same period, high school graduates and those with associate’s degrees or some college have seen their adjusted annual earnings fall 13% and 18%, respectively. The chart below from the College Board summarizes average income levels as of 2015.

Note that it is the advanced degree earners who are the big winners. Accordingly: be aware that average and median income data is highly misleading when advanced degree holders are grouped with bachelor’s degree holders in a “bachelor’s or more” group.
Despite the median incomes in the chart above, income distribution varies enormously within every education level, as the following chart shows. For example, almost 40% of bachelor’s degree holders earn $80,000 or more while 43% earn less than $60,000. As Pathways to Prosperity points out, “27 percent of people with postsecondary licenses or certificates — certificates short of an associate’s degree — earn more than the average bachelor’s degree recipient.”

In addition, there is significant variation in income outcomes from major to major and from college to college, so much so that Cappelli says, “Students in some programs do spectacularly well after they graduate, but many others would have been better off financially by not going at all.”

Here are some other employability and income considerations:

- **Students gravitate to majors where employer demand is perceived, but change is so rapid in many industries that, by the time students graduate, they may miss the market.** Sites such as CareerOneStop provide a wealth of information on careers, skills, and salaries, but Peter Cappelli, in Will Colleges Pay Off?, and Thomas Friedman, in Thank You for Being Late, document how quickly labor demand can change. Even high-tech fields like petroleum engineering and computer science experience boom-or-bust cycles. Rather than betting the farm on a college major, students today need to be developing career resilience by parsing that college major into specific in-demand skills and developing a well-balanced opportunity engine with appropriate attention on work experience and social capital, as well as degrees and credentials so that they can adapt and reconfigure those assets as the opportunity landscape changes.

- **Surprisingly, the main college-major categories have not shifted radically over time, as this interactive graphic on the NPR Planet Money website shows.**
• **Sub-baccalaureate certificate seekers are interested primarily in three fields:** health care (42%), personal/consumer services (21%), and manufacturing/construction/repair/transportation (14%).

• **Liberal arts graduates earn a little less than other majors when they start out, but in their peak earning years, they are often earning more than those other majors.** A 2013 study by Burning Glass, a labor analytics company, examined a year’s worth of job openings and found that liberal arts graduates were qualified for about one-quarter of those jobs. “Even in technical roles, you see employers shouting from the rooftops that they can’t get what they need. What they’re often talking about are foundational skills…. The market for what liberal arts students are accruing is as strong as ever. They just need to figure out how to acquire the job market skills to make themselves relevant right out the door.”

• **Passion comes later,** according to the creators of the Designing Your Life course at Stanford University: “We’re not very passionate about finding your passion. We believe that people actually need to take time to develop a passion. And the research shows that, for most people, passion comes after they try something, discover they like it, and develop mastery — not before.” A clear understanding of how to build and manage one’s opportunity engine and solid Wayfinding Abilities become integral to finding and pursuing a passion in a pragmatic way. Students at the Cesar Chavez schools in Washington, DC, explore social justice through a four-year service learning and internship program. Many find their passion and college major (as well as social capital advocates) through that experience.

• **The European model is more hands-on:** “In Austria, Denmark, Finland, Germany, the Netherlands, Norway, and Switzerland, after grade 9 or 10 between 40 and 70 percent of young people opt for an educational program that typically combines classroom and workplace learning over the next three years. This culminates in a diploma or certificate, a ‘qualification,’ as it’s called, with real currency in the labor market. In virtually all of these countries, vocational education also provides a pathway into tertiary education for those who choose to take it.” — *Pathways to Prosperity*

• **Advanced degrees earners are the big winners.** As the chart above shows, the number of advanced degrees has increased. Researchers often make economic comparisons between groups with differing levels of educational attainment. However, it’s important to be cautious when advanced degrees are grouped with bachelor’s degrees and labeled something like “bachelor’s or more.” In 2010, advanced degrees comprised more than one-third of the “bachelor’s or more” group, and because advanced degree holders are the big winners in employability and income, they skew the data when grouped with bachelor’s degree holders without advanced degrees. The bottom line is that, on average, a bachelor’s degree does convey an employability and income benefit over an associate’s degree, but that benefit is much less than the dramatic difference when advanced degrees are included in the comparison.
**These trends are deepening race-based inequities**

As a result of postsecondary trends, Anthony P. Carnevale, director of the Georgetown University Center on Education and the Workforce, argues that “inequities in higher education are exacerbating racial inequality”.

Since the 1990s, the number of black and Latino high school graduates who enroll in college has more than doubled. But three-quarters of that increase has been at open-access colleges. Meanwhile, white college enrollment has increased only at the nation’s top 500 universities. **As a result, American higher education has evolved into a two-tiered separate and unequal system that fuels the intergenerational reproduction of white racial privilege.**

Our racially stratified postsecondary education system serves as a passive agent that mimics and magnifies the race-based inequities it inherits from the K-12 education system and projects them into the labor market. Whites educated at elite colleges go on to have successful careers, marry other whites with similar backgrounds, and buy homes in the right neighborhoods. Those neighborhoods in turn give their kids access to a top education in pre-K through high school that prepares them for selective colleges, beginning anew the self-sustaining intergenerational cycle of racial privilege.

At the top 500 universities, whites comprise 70 percent of students, compared to their 57 percent share of the college-age population. Meanwhile, as blacks and Latinos have swarmed the halls of open-access colleges, whites have fled them. White students have declined from 68 percent to 49 percent of students at open-access colleges, while black and Latino students have grown from 26 percent to 45 percent.

It should come as no surprise that the outcomes at the top 500 universities and the 3,000 open-access colleges are vastly different: 82 percent of students at top universities graduate, compared to 49 percent of students at open-access colleges. Unequal college outcomes then lead to unequal career success and differential access to graduate school, which is especially important because it is only at the graduate degree level that we see race-based earnings gaps converge.

**Final thoughts on plotting a path to entry and advantage**

Racial and economic inequality will continue to worsen until K-12 and postsecondary systems are more closely aligned to support individual interests and abilities with options, pathways, and supportive social capital that help offset the natural advantages of family background and wealth.

The “path to entry and advantage” decision that each young person must make is, paradoxically, full of options and opportunities — as well as a hundred ways to err and cripple one’s chances in life. The American system of higher education is, arguably, the most flexible in the world, with an abundance of entry points and avenues to advance. At the same time, we have the highest college dropout rate in the
industrialized world. As Cappelli argues, “the ability to always go back to school and complete college over a period of decades” is a unique strength of the US model, and one we need to learn to harness in a more efficient and effective way.\(^74\) We give the last word on plotting a path to entry and advantage to Pathways to Prosperity:

**Given these dismal attainment numbers, a narrowly defined “college for all” goal — one that does not include a much stronger focus on career-oriented programs that lead to occupational credentials — seems doomed to fail.** The College Board has set a goal of raising our college completion rate to 55 percent by 2025. This would require an annual increase of 1 percent for the next 15 years, a much faster rate of progress than our experience over the last 15 years would suggest is possible. But even if this campaign were to succeed — something we should all be rooting for — it would still leave us with a very troubling question: **what about the other 45 percent of young Americans?**

These are the same 45 percent of students who say they were bored in high school, who dropped out or never got past remedial courses in community college, and might say wistfully a few years after high school that they wished they had applied themselves more. They are the young people most likely to hit the wall after high school, running smack into the harsh realities of unemployment or dead-end, sub-living wage jobs. What is our strategy for equipping them with the credentials they need to be full participants in American society?\(^75\) [original emphasis]

### DECISION 2. Calibrating the work/learn mix

"I knew that I would end up having to work, because my parents weren’t in a position to support me. It kind of impacts you mentally because you really don’t have too much social interaction — you know you can’t go out and have fun. But the only reason I even kept doing it is because I didn’t have anything else to fall back on."

— Thierry Pierre-Charles

young working learner, Miramar, FL\(^76\)

This section will not repeat the statistics on the youth employment crisis described in Report 1 or the labor market roadblocks described in Report 2. The focus here is on a young person’s second Decision: the mix between working and learning, and the factors that postsecondary students and career seekers must consider as they strive to gain education, work experience, in-demand skills, and social capital (the four blades of their opportunity engine).

### What should I know about working while in college?

As Report 1 summarizes, *Learning While Earning: The New Normal* documents the ubiquity of work among college students today. Currently, 70–80% of college students work; about 40% of undergraduates work at least 30 hours a week.\(^77\) A Ready by 21 report, *When Working Works*, focuses on how to make the work/learn mix work for students. The report begins by noting that, “For most of these students,
having a job while in school is not a choice; the majority of community college students say they would not be able to afford college if they did not work."\textsuperscript{78}

There are many, many different kinds of working learners, with many types of working arrangements and intensities. That said, working your way through college in the sense of paying as you go is all but gone due to escalating college costs and fewer employment opportunities. Most students are working and taking out loans. As Learning While Earning states, “The nation has yet to figure out how to pay for this new stage in the transition from youth dependency to adult independence and family.”\textsuperscript{79}

Often working is a necessity, but Learning While Earning emphasizes that “early work experience forms good habits and helps students make career connections”\textsuperscript{80}:

In general, work — even menial work — promotes skills such as time management, communications, and conflict resolution, as well as many other soft skills necessary for success in the workforce. Work can also be a meaningful alternative entry into the adult world, providing an escape into relevance from the abstract grinding rigors of schooling. Work can also be a personal and occupational exploration connecting individual interests, values, and personality with academic fields of study leading to particular careers. But the effects of work differ by student characteristics both in high school and even more so in college. Low-income students, especially low-income African Americans and Hispanics, tend to experience the more negative effects of working on their educational achievement and educational attainment. This appears to be the result of a lack of counseling, social capital, and other supports that are typically associated with a higher socioeconomic status or more selective colleges.\textsuperscript{81}

*When Working Works* outlines four key benefits of working: hiring edge, greater engagement in learning, better work skills, and better college persistence.\textsuperscript{82} However, as we describe below, there are also downsides to working.

**What type of jobs are most beneficial to my future career?**

The greatest benefits of working come when a job is closely related to one’s field of study — something that happens much too infrequently. It is notable that “almost two-thirds of recent [college] graduates report that they do not have a job closely related to their field of study.”\textsuperscript{83} Unfortunately, the same pattern holds true for most working learners; for example, Learning While Earning reports that more than half of working learners are in sales and food/personal services occupations (chart):
Unfortunately, too few postsecondary institutions foster the kind of work that most benefits students which are jobs closely related to their field of study that provide work experience that can accelerate their transition into full-time careers. In addition, *When Working Works* offers a set of characteristics of good jobs for college students that includes a “school comes first” environment, opportunities for skill-building, and constructive feedback (see sidebar).

Unfortunately, by the time most students reach college, they are time-starved and cash-strapped, often resorting to a string of minimum-wage jobs with little skill- or career-building value. Few colleges create on-campus work experiences like the University of Maine Farmington’s Student Work Initiative (see profile in *When Working Works*) or the Work Learning program at Warren Wilson College in Asheville, North Carolina.

The alternative might be to arrive at college with some in-demand skills developed in high school, that are related to one’s field of interest or are capable of earning more than minimum wage (or both). Examples within reach of many high schoolers include computer help desk, simple Web development, QuickBooks posting, Excel analysis, teaching piano, coaching younger children, house painting, simple construction or landscaping skills, basic project management, and sales.

With encouragement and support from educators and parents, these types of marketable skills might be outgrowths of extracurricular activities, paid or unpaid internships, or career exploration activities.
At what point does working hurt academic performance?

*When Working Works* underscores the risks, “Studies have shown that students who work more than 20 hours a week often have lower grades, take more time to complete their degrees, and have more mental health problems.” Nonetheless, about 4 in 10 undergraduates work at least 30 hours per week.

Cappelli believes heavy work schedules are prolonging college completion:

Less than 40 percent of full-time students entering four-year colleges in recent years have been graduating in four years. The percentage of students who graduate in six years is surprisingly low as well, less than 60 percent. Those six-year figures are slightly better for private schools (65 percent) and considerably worse at for-profit colleges (42 percent).

Students need to strike a balance. *When Working Works* emphasizes that, in pursuing ways to decrease student stress and increase college completion rates:

…we should be careful not to lose sight of the potential benefits of student employment. For many students, a positive work experience can facilitate, rather than derail, educational and vocational progress. We need to understand and appreciate what it looks like when working works, so that we can make a concerted effort to transform employment opportunities into drivers of student success.

From the standpoint of the 5 Decisions and navigating the work/learn landscape, getting the right work/learn mix is important on many levels. Career-related, student-friendly work with high learning content is the win-win solution that all students should be trying to find.

**DECISION 3. Vetting postsecondary providers**

“If and when our society stops valuing only a narrow range of occupations, roles, and accomplishments, it will help young people learn to enjoy who they are and to see what they can do.”

—Robert Halpern
*Youth, Education, and the Role of Society*

There are whole libraries full of resources for young people on finding and vetting colleges. We will not try to summarize that process here. Instead, we focus on three issues and trends that next generation educators should be informed about and should discuss with their students:

- **Undermatching:** when low-income, high-achieving students apply to “easy” schools nearby rather than selective schools that match their academic potential.
• **Finding good certificate programs:** the rapidly growing certificate field is just beginning to develop central cataloging systems, and does not yet have a comprehensive, trusted evaluation system.

• **The growing for-profit sector’s dismal results:** for-profits are playing an increasingly larger role in postsecondary education, but their tuition, completion, and loan default rates for longer term certificates and degrees are often alarming.

**What is “undermatching” by low-income high-achieving students?**

Only about one-third of students have the grade point average, test scores, and college-ready course completions needed to successfully tackle college work without remedial (developmental) courses. This one-third is overwhelmingly white and from higher SES families. These students typically follow experts’ advice and apply to a range of “peer,” “reach,” and “safety” colleges. However, for low-income high-achievers, that is often not the pattern.91

Only about 1 in 10 academically prepared students are from poor families living below the federal poverty level. Students of color represent 48% of all students, but only 15% of academically prepared students. Despite the receptivity of selective colleges and universities to high-achieving low-income and minority applicants, many of these students instead choose local, more familiar institutions with median academic achievement far below their own — a practice called undermatching. Given the importance of narrowing the opportunity gap, addressing this system inefficiency should be a priority.

Caroline Hoxby at Stanford and Christopher Avery at the Harvard Kennedy School are leading researchers on undermatching. They state the problem at the beginning of one of their papers:

> In this study we show that a large number — probably the vast majority — of very high-achieving students from low-income families do not apply to a selective college or university. This is in contrast to students with the same test scores and grades who come from high-income backgrounds: they are overwhelmingly likely to apply to a college whose median student has achievement much like their own. This gap is puzzling because we find that the subset of high-achieving, low-income students who do apply to selective institutions are just as likely to enroll and progress toward a degree at the same pace as high-income students with equivalent test scores and grades. Added to the puzzle is the fact that very selective institutions not only offer students much richer instructional, extracurricular, and other resources, but also offer high-achieving, low-income students so much financial aid that these students would often pay less to attend a selective institution than the far less selective or nonselective postsecondary institutions that most of them do attend.92

Hoxby and Avery study high-achieving students who score at or above the 90th percentile on the ACT or SAT and who have a GPA of A- or better. This is approximately 4% of US high school students. Using individual-level data on every student who takes the ACT or SAT, the researchers created a database of
high-achievers and studied their college application process. Some low-income high-achievers use the same application process as high-achievers from higher-income families. But many others, “probably the vast majority,” do not. This second group exhibited what the researchers call “income-typical” behavior: applying to the same community colleges and local open-access institutions as more average students from similar low-income families in their region. Beating the “social capital drum” that we return to in Report 4, Hoxby and Avery conclude:

We find that income-typical students are fairly isolated from other high achievers, both in terms of geography and in terms of the high schools they attend. In fact, their lack of concentration is such that many traditional strategies for informing high-achieving students about college — for instance, college admissions staff visiting high schools, or after-school programs that provide mentoring — would be prohibitively expensive. We also show that income-typical students have a negligible probability of meeting a teacher, high school counselor, or schoolmate from an older cohort who attended a selective college. It is a shortage of social capital, not a shortage of money, at the heart of the problem. Undermatching seems like a fixable problem. While finding isolated high-achievers may not be within the mission of many next generation educators today, this research is a reminder that, in every community, isolation and communication gaps are inhibiting low-income, high-achieving students from reaching the potential they have worked for and deserve. Next generation educators can help ensure that all high-achieving students within their sphere of influence are properly matched with colleges or postsecondary programs that fit their abilities.

**How do I find a high-quality certificate program given the constant proliferation?**

In the US, there are more than 4,600 degree-granting institutions and myriad additional schools and organizations that provide certificates and badges. Nearly a third of the institutions granting two- and four-year degrees are for-profit institutions established since 1980; their share of total postsecondary enrollment is approximately 12%. Cappelli describes the sector:

Under the broad heading of “postsecondary” — after high school — there is now an array of college-like options that did not exist a generation ago, including for-profit colleges, vocational schools that provide all kinds of skill certificates, community colleges and junior colleges with associate degrees, and traditional four-year colleges offering bachelor’s degrees in highly specific fields such as health care finance or casino administration.

The rise of industry certificates, newer types of micro-credentials like recognized bootcamp course completions and competency-based badges should be a good thing for students and workers: providing new ways to gain skills and document their qualifications, especially for middle-skill jobs. Indeed, badges, other micro-credentials, and certificates could be a perfect opportunity for students in the not fully prepared group and for opportunity students looking for an early on-ramp to the working world.
while they continue to build their opportunity engine. However, certificate programs present three basic challenges that students and the schools supporting them need to overcome:

- First is the “haystack” problem: Options have proliferated, but central repositories or catalogues to access and filter programs for study and consideration are just developing. (The Credential Engine, mentioned earlier, is a multi-party initiative working to build a central, accessible registry and search app.)

- Second is the “quality and fit” problem: How good is the training and education associated with a certificate or badge? Is it a proper fit with an individual’s qualifications, competencies, and aspirations? Over the decades, various services have emerged to profile college and university degree programs, but we are in the infancy of doing the same for sub-baccalaureate credentials.

- Finally, we have the “screening/signaling” problem (aka the “employer” problem): In today’s world of algorithmic employment screening, will a particular certificate get past the automated filter? What value will employers place on a particular certificate and the granting institution? Is the grantor local and, if so, does the certificate have any value in other regions? These may not be fatal questions; a few employers are starting to respond to a certificate with enthusiasm and competency-based hiring is emerging in pockets. However, students should be considering these questions before enrolling.

**How cautious should I be about enrolling at a for-profit institution?**

Students vetting postsecondary providers have more variety and choice than ever. However, finding a program that fits their educational and occupational interests, learning preferences, work/learn priorities, and financial resources also entails more risk of a mismatch than ever, as well as the risk of poor degree attainment outcomes and employment results. We typically interpret *caveat emptor* as “buyer beware,” but a more accurate definition is that the buyer alone is responsible for checking the quality and suitability of a purchase. So it is for high schoolers making postsecondary choices, especially with regard to the expanding for-profit sector.

The National Center for Education Statistics quantifies the scope of the for-profit sector today in relation to certificate, associates, and bachelor programs:

- The share of all undergraduates attending for-profit institutions more than doubled between 1995 and 2011, from 5% to 13% overall and from 1% to 17% at four-year institutions.
- Compared with their counterparts at public institutions, undergraduates attending for-profit institutions enrolled in certificate programs at a higher rate (5% vs. 29%, respectively) and enrolled in associate’s degree programs at a lower rate (52% vs. 31%, respectively).
- In addition, at for-profit institutions, 22–27% of students were black, compared with 13–16% at public and nonprofit institutions.

About the phenomenon, the Center writes, “The rapid growth of the for-profit sector has renewed public scrutiny and concern about the historically poor labor market outcomes of students at many of these institutions and the amount of debt students in these institutions often take on.” Here is the sector’s performance in the aggregate:
• **Poor graduation rates and high loan default rates.** On average, for-profits have six-year graduation rate of just 23%, far below public (59%) and nonprofit (66%) institutions. The for-profit share of loan defaults was 44% in 2013 despite an enrollment share of just 12%.98

• **Poor labor market outcomes.** “On average, employment and earnings are higher for students who attend public or nonprofit institutions. Six years after beginning their programs, students who ever attended for-profit institutions were more likely than students who attended only public and nonprofit institutions to be unemployed or out of the labor market, and they earned less than students with similar student characteristics and school completion rates did.”100

Despite these poor outcomes, for-profits are carving out a niche — particularly among lower-income students and students less academically prepared, where they have a 20% enrollment share.101 Some students at some for-profits are converting their investment into meaningful employment, but a great many others are maxing out their Pell Grants and student loans and ending up in the unfortunate some-college/no-degree category.

Although the best for-profits fill a need in this country, the odds of students getting scalped is often high (see the “For-profit Colleges in the News” sidebar below). Cappelli explains how we got here:

> The United States is at the moment the only country in the world where the notion that employers are simply the consumers of skills is seriously considered. That may help explain why we are also the world leader in the creation of a for-profit training industry that meets the skill demand, where individuals pay close to the full cost of getting the skills they need. **Indeed, for-profits now provide 50 percent of all skills credentials.**102

It is also important to note, on the flip side, that some for-profit providers who offer shorter workshops, bootcamps, online, or part-time skill development opportunities (rather than the more expensive online degrees and longer certificates that attract Pell grants) are gaining trust for delivering value, as well as developing the kind of reputation and intentionally fostering the kind of social capital networks once associated only with more traditional or academic learning experiences. Stephanie Krauss from Jobs for the Future notes that General Assembly, in her view one of the best “bootcamp” credentials, actively supports a learner and “alumni” network that provides what she calls a “social capital halo” to continue to add value.103

Given the importance of training and pathways to middle-skill jobs, students exploring that portion of the labor market cannot ignore for-profit offerings; however, they need much more transparency and counseling from third-parties about the quality and performance of for-profit programs. Hopefully, the forthcoming Credential Engine initiative will, help fill the gap; meanwhile, some aggregate institutional performance data can be found at [College Results Online](#) and [College Reality Check](#). Nevertheless, there is no substitute for local student advocates who know their region’s economy and employers and can
organize and vet data on all postsecondary providers, and help students with the challenging decision of selecting an appropriate match.

In all three of the questions explored in this Decision 3, “Vetting Postsecondary Providers,” the high cost of college is deeply intertwined in student thinking. We turn to the financial cost and risk next.

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For-Profit Colleges in the News

Excerpts from four recent articles provide context to the shady practices of some for-profit institutions and the efforts to rein them in.

**“How For-Profit Colleges Sell ‘Risky Education’ to the Most Vulnerable”**
*National Public Radio, March 27, 2017*

“For-profit colleges have faced federal and state investigations in recent years for their aggressive recruiting tactics — accusations that come as no surprise to author Tressie McMillan Cottom. Cottom worked as an enrollment officer at two different for-profit colleges, but quit because she felt uncomfortable selling students an education they couldn’t afford. Her new book, *Lower Ed*, argues that for-profit colleges exploit racial, gender, and economic inequality. Cottom tells *Fresh Air*’s Terry Gross that for-profit institutions tend to focus their recruiting on students who qualify for the maximum amount of student aid. “That happens to be the poorest among us,” she says. “And because of how our society is set up, the poorest among us tend to be women and people of color.”

**“This is the Way the College ‘Bubble’ Ends”**
*The Atlantic, July 26, 2017*

“The for-profit implosion has been as dramatic as its rise. Between the 2010 peak and 2015, enrollment at private for-profit colleges decreased by about 40 percent, or 600,000 annual students. (In the same period, enrollment at public colleges and universities only decreased by 4 percent.) Federal loans for undergraduates attending for-profit colleges have also declined by 40 percent.”

**“Dozens of For-Profit Colleges Could Soon Close”**
*The Atlantic, January 11, 2017*

“More than 800 vocational programs the department reviewed (at for-profit schools, private nonprofit schools, and public community colleges) failed to show that their graduates were able to find decent jobs.... Not insignificantly, virtually all—98 percent—of the programs that do not meet that bar are for-profit schools. Not a single community college appears on the list. If schools...don’t begin to turn things around within several years, they stand to lose aid, and, in many cases, would likely shutter as a result....

“Right now, for-profits can get up to 90 percent of their revenue from federal aid, and the working paper cites studies that have shown that when the schools have access to federal aid, they charge significantly more than similar programs without access to aid....

“Secretary King also said... that higher education is still a wise investment. It’s just important to understand which programs are worth the money, and which are, as he put it, a ‘liability.’”

**“If Trump Pulls Back, Can States Do More to Regulate For-Profit Colleges?”**
*Chronicle of Higher Education, July 13, 2017*

“Even if Betsy DeVos, the education secretary, gets rid of or weakens the rules, for-profits can expect to face oversight. States, particularly those with Democrats in office, will seek to fill the void left by the Trump administration.
**DECISION 4. Figuring finances and risk**

“I can’t afford for her to have a 53% chance of success in six years. I need for her to have a 100% chance of success in four years.”

—A parent, upon hearing college completion rates

The fourth of the 5 Decisions concerns the cost of college. Today, the average college student will assume $25,000 in debt. Student loan debt has skyrocketed to the largest consumer loan category, and 25% of student loan borrowers are delinquent on their loans. Inflation and public policy have turned postsecondary education into a high-stakes gamble. The quote from Wharton’s Peter Cappelli in Report 1 bears repeating here: “Everyone should be concerned about this new environment where college appears to be necessary for a child’s future, increasingly expensive, but also increasingly risky in terms of career prospects.” That alone is a powerful argument for acquiring broader, deeper competencies and a different, more resilient approach to navigating the work/learn landscape.

For purposes of this discussion, we accept the high, rising cost of college as a given. Here, we briefly examine three more-solvable issues, each of which relates to the competence and experience levels that students have as they exit high school: over-paying and over-borrowing, the financial burden of “extra” years of college, and the financial burden of ending up with some college but no degree.

**How can I compare college costs and avoid over-paying and over-borrowing?**

In *Will College Pay Off?*, Cappelli emphasizes that, for many families, college has become a “high-stakes bet” — often the largest financial investment they will ever make. Like the parent above, each family is concerned not only by the cost but the chance of success — both the probability of their child graduating in a timely manner and the odds of earning a commensurate income (as well as leading a fulfilling life). In short, comparing college costs requires projecting a return on investment (“ROI”) and Cappelli’s answer to “Will college pay off?” is “It depends.” The first variable in any college ROI projection is the cost of attendance at various institutions. The table below compares costs for five different categories. Note that the cost increases from 2003-04 to 2011-12 are in constant 2012 dollars and, therefore, after inflation!

<table>
<thead>
<tr>
<th>Type of institution</th>
<th>2003-04</th>
<th>2007-08</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students</td>
<td>$13,600</td>
<td>$14,700</td>
<td>$16,500</td>
</tr>
<tr>
<td>Public 2-year</td>
<td>7,400</td>
<td>7,300</td>
<td>8,700</td>
</tr>
<tr>
<td>Public 4-year</td>
<td>15,000</td>
<td>16,200</td>
<td>17,900</td>
</tr>
<tr>
<td>Private nonprofit 4-year</td>
<td>22,400</td>
<td>30,400</td>
<td>34,400</td>
</tr>
<tr>
<td>For-profit less-than-2-year</td>
<td>16,600</td>
<td>17,900</td>
<td>21,700</td>
</tr>
<tr>
<td>For-profit 2-year-or-more</td>
<td>18,100</td>
<td>22,400</td>
<td>19,900</td>
</tr>
</tbody>
</table>

Source: *Use of Private Loans by Postsecondary Students*, National Center for Education Statistics, 2016, p. 9, using National Postsecondary Student Aid Studies. Total price of attendance includes tuition, room and board, books and supplies, transportation, and personal expenses.
It is also worth noting that two categories have experienced the most dramatic rising costs: private four-year nonprofits (54% from 2003 to 2011) and for-profit certificate programs under two-years (31%).

We are not suggesting that families will sit down to make a formal ROI calculation, but regardless, they are assessing their options with considerable care. And, the other variables in their thinking include:

- Financial aid and projected student debt
- Expected time to completion and likelihood of completion
- Concurrent work hours and income
- Expected employability and career income, and risk of failure
- Student’s maturity and likelihood of postsecondary success

Because the financial upside of postsecondary education is so pivotal, and the downside so devastating, the MyWays Project places enormous priority, first on the last of the variables and the broader, deeper competencies that support maturity and success, and second on the pathways and support structures that help young people and their families achieve their upside and mitigate the downside risks.

One place schools and communities need to do a better job of informing and supporting young people and families concerns predatory for-profits and other high-cost postsecondary providers. On average, for-profit schools are more than double the cost of public two-year schools. In some cases, specialized certificate programs with proven prospects for meaningful employment may justify the added cost. However, too often such excellence is not present and these schools seek out the students eligible for maximum federal financial aid, then sell them on the promise of high-paying jobs to pay off the loans.

Other forms of over-paying include failing to maximize the financial aid package, selecting a college or a major with insufficient research or for the wrong reasons (a “party school” for instance), working too many hours to receive a quality education, or paying for extra years (discussed separately below).

On the borrowing side, a study of federal student borrowing sums up the financial trends and burden:

As college costs continue to rise, students and their families increasingly rely on federal loans to help pay for college expenses. In 2011–12, over half of all undergraduates (52 percent) had borrowed money from the federal government to fund their education, compared with just over one-quarter (27 percent) in 1989–90, some 2 decades earlier. Not only were students more likely to take out loans, they also borrowed larger amounts, even after adjusting for inflation. For example, the average cumulative amount borrowed by undergraduate recipients of Stafford Loans (the primary federal loan program) was $14,300 in 2011–12, compared with just over half that sum, $7,700 in 2012 dollars, in 1989–90. Student debt has been increasing so rapidly over the past 2 decades that, in 2012, national student debt levels surpassed $1 trillion, making student debt a widely cited national economic issue.
The debt summary above pertains to only the federal portion of total student debt problem. As the cost of college continues to rise, it creates an ever-greater burden on students and their families and greater risk of failure. One practical small step that can be taken is better information and coaching about avoiding over-paying and over-borrowing.

**How can I avoid the financial pitfall of “extra” years of college?**

Just 56% of students at four-year colleges earn a bachelor’s degree within six years and, at community colleges, “fewer than 30 percent of students manage to earn an associate’s degree ‘on time’ (meaning within three years).” Sometimes, as in the earlier case of opportunity student Jacob L., this extended duration is a matter of pacing: paying four years of college tuition over a longer period to avoid debt. But too often, the extension translates into extra tuition costs, extra room and board, and extra debt.

Obviously, the ideal solution where possible, is to ensure that students are academically prepared so they can avoid paying for remedial courses in terms of both money and time. College consultant Donald Asher describes six other reasons college students don’t graduate in four years:

- Their parents let them take longer
- They don’t go to school every day
- They change their majors too often and too late
- They go to too many schools or they transfer once or twice and lose credits
- They work too much (and, if they are working class, they work way too much)
- Universities make it difficult to get required classes

Each of these reasons is interconnected with the competencies and experience that students require to successfully make the 5 Decisions in navigating the work/learn landscape well and managing the college financial investment expertly.

**How can I avoid the financial penalties of some-college/no-degree?**

Throughout this report, we have emphasized the crippling impact of attending college but leaving without a degree. *The New Forgotten Half* analyzes these some-college/no-degree individuals:

We implicitly assume that dropouts lack academic skills or motivation, although, as stated above, they don’t appear much different than their peers who attain sub-baccalaureate credentials. These findings indicate that students with no credentials have no payoff, and that they waste scarce time and money, incurring substantial college debt — nearly as much as students who got certificates ($15,664 v $15,995). Our college for all ideals are well-intentioned and benefit many youth, but there is more that can be done to help those who enter college but fail to complete a credential. Research can help us understand how to help these young people move beyond ‘some college,’ attain a credential, and achieve workforce success.
The same study, conducted for the William T. Grant Foundation, concluded that some-college/no-degree conveyed no increase in employability or income compared to those with high school diplomas but no college.\textsuperscript{111}

To avoid the current epidemic of some-college/no-degree, students need to be fortified with the right competencies and real-world experiences to dramatically improve their prospects for attaining a degree or credential the first time through — not after an expensive failure. Indeed, in our view, some-college/no-degree (including “no certificate”) indicates system failure. Continuing to push students who are not fully prepared toward “all or nothing” degree programs, without proper supports and safeguards, is likely to produce increasingly worse results as the 5 Roadblocks to bootstrapping a career, the 5 Decisions in navigating the work/learn landscape, and the 5 Essentials in building social capital continue to become more complex and challenging, especially for low-income students and students of color. The antidote to some-college/no-degree and to figuring finances and risk generally involves Wayfinding Abilities to survey college options and develop a sound plan; Content Knowledge to research college and career information and make real-world financial calculations; Creative Know How to problem solve and communicate; and Habits of Success to handle the stress and keep a steady hand on the rudder.

Next, we briefly discuss social capital (which we cover in more depth in Report 4) before wrapping up this report with several key takeaways.

**DEcision 5. Cultivating social capital**

“In the end, success is more about who you know than what you know. Because everyone teaches you something. You listen to everyone, and bit by bit, you figure things out.”

—Bill Belichick

Head coach, New England Patriots\textsuperscript{112}

One of the outcomes designed into the MyWays competencies is the ability to cultivate relationships and social capital, through which students obtain the information, support, resources, and access needed to navigate the work/learn landscape and formulate and implement a plan for college and career. We cover this topic fully in Report 4, including the five types of social capital that every young person needs, as well as the gaps and adversities that confront young people in general and low-income students and students of color in particular.

“Cultivating social capital” is Decision 5 for two reasons. First, it takes many allies, proponents, advisors, and contacts to successfully make it through a college career or into a good job. High schoolers need to know this and practice it; all too often they don’t. In this regard, the 4-H motto, “Learn to do by doing” is apt. Second, for those students attending college, these postsecondary years are critically important to cultivating the new relationships and networks that will comprise their personal opportunity engine’s
social capital blade and serve as the basis of the next phase of their careers. Some young people have a knack for this. For others, more reserved or shy, it is hard work. All students should be deliberately meeting people, building connections, and learning the art of “weak ties.”

Sociologists now know that it is breadth of your “weak ties” network that uniquely serves as a portal of information and opportunity, as Hoffman and Casnocha explain:

Weak ties in a career context were formally researched in 1973, when sociologist Mark Granovetter asked a random sample of Boston professionals who had just switched jobs how they found their new job. Of those who said they found their job through a contact, Granovetter then asked how frequently they saw the contact. He asked participants to mark whether they saw the person often (twice a week), occasionally (more than once a year but less than twice a week), or rarely (once a year or less). About 16% of the recipients said they found their job through a contact they saw often. The rest found their job through a contact they saw occasionally (55%) or rarely (27%). In other words, the contacts who referred jobs were “weak ties.” He summed up his conclusions in a paper appropriately called ‘The Strength of Weak Ties’: the friends you don’t know very well are the ones who refer winning jobs.\(^\text{113}\)
The secret to weak ties, Granovetter found, was that no endorsement or obligation was implied in a weak tie communication; therefore, information, advice, and job leads move more freely than when strong tie relationships are involved. Accordingly, weak ties, and the cultivation of all forms of social capital, are vital to advancing in work and in life. As Hoffman and Casnocha state, “World-class professionals build networks to help them navigate the world,”\textsuperscript{114} and they dedicate 60 pages of their book, \textit{The Start-Up of You}, to network building.

Networks & weak ties are just one of the five types of social capital described in Report 4 which introduces the MyWays Developmental Framework for Social Capital. However, cultivating weak ties and other forms of social capital is a vital part of navigating the work/learn landscape and, therefore, deserves attention as one of the 5 Decisions here in Report 3. Continuing the organization of the 5 Decisions, three key questions about cultivating social capital might be:

- How can I break out of the traditional high school box and begin building relationships and social capital to help me advance in the work/learn landscape?
- How can I leverage my learning and working experiences in the years following high school to build additional relationships and join adult networks?
- How can I become more practiced and skilled at calling on my social capital to guide me in my work/learn decisions now and in the future?

Rather than discuss these questions individually as we did in the earlier Decisions, we refer readers to Report 4, \textit{5 Essentials in Building Social Capital}.

Before we close out Report 3 with key takeaways for next generation educators, we remind readers that we have created a data digest of additional information on each of the 5 Decisions:

\textit{Understanding the Postsecondary Years: A Data Digest of Today’s Evolving Work/Learn Landscape}

**Key takeaways for next generation educators on the work/learn landscape**

“In this environment, all young people, not just those from low-income families or with weak academic preparation, need more information about careers, more structure in their school-to-postsecondary pathways, and much more experience of the workplace than ever before.”

—Nancy Hoffman

\textit{Let’s Get Real: Deeper Learning and the Power of the Workplace}\textsuperscript{115}

Despite a rising college enrollment rate, the US has the highest college dropout rate in the industrialized world. With a troublesome labor market, escalating college costs, and general uncertainty about future opportunity, young people leaving high school face a \textit{wicked problem} — that is, a problem that is novel and complex, with high uncertainty and incompatibility with trial-and-error.
We began this report summarizing the accelerations that are transforming higher education and “the growing diversity among postsecondary programs of study, credentials, and modes of delivery that are aligned with an increasingly complex set of career pathways.” Amid the chaos, there are new possibilities for young people to align their aspirations and assets with the market realities of the workforce and economy today. To this end, we reintroduced the MyWays Student Success Framework and described how the competencies are like multi-purpose tools to help young people through the three stages of establishing a career: *arrive*, *survive*, and *thrive*. We then used the opportunity engine construct to compare and contrast a “traditional” student approach, focused narrowly on earning a degree before progressing to a job, with an “opportunity” student approach of developing a balanced, personal opportunity engine of *in-demand skills*, *work experience*, and *social capital* along with *degrees and credentials*.

Next, we examined students’ academic preparation today, concluding that each cohort is comprised of three approximately equal groups: those who are academically prepared, those who are not fully prepared, and those who are not academically prepared. By and large, the academically prepared succeed in college; however, only 1 in 10 students in this group are from poor families and only 15% are students of color. The big problem today: the bleak outcomes for students enrolling in college who are either not academically prepared or are not fully prepared. As a result, the opportunity gap continues to widen at an alarming rate.

As we did with the 5 Roadblocks in Report 2, this report organizes our research on today’s *work/learn landscape* into 5 Decisions, each actionable for next generation educators as they prepare their students for the future. To review, the 5 Decisions are:

Recapping the 5 Decisions in Navigating the Work/Learn Landscape

1. **Plotting a path to entry and advantage**
   Top academic students are likely to succeed in college. The far more difficult “path to entry” decision is the one confronting students who are not academically prepared or not fully prepared. Approximately half of young people earn a degree or certificate, but another half top out with a high school diploma — at a time when prospects for low-skill workers are at historic lows. On average, four-year institutions demonstrate better degree completion results while community colleges, particularly the best ones, offer flexibility and a wide variety of academic and degree programs. On average, bachelor’s degree recipients enjoy economic advantages, but 27% of people who have only licenses or certificates earn more than the average bachelor’s degree recipient.

2. **Calibrating the work/learn mix**
   The vast majority of college students work, which dramatically alters the postsecondary experience. Despite the important potential benefits of working, most students are working too many hours (and hurting their learning), and forced to do so in fields such as sales and food services rather than in jobs closely related to their fields of study. Characteristics of good jobs for college students include those with a “school comes first” environment, opportunities for skill-building, and constructive feedback.

3. **Vetting postsecondary providers**
   The ability to find and evaluate colleges and certificate-granting institutions is a crucial and troublesome part
of the biggest financial decision most people will ever make. Three key issues are discussed. The first is “undermatching” — that is, the failure of many low-income high-achieving students to find and apply to selective schools that match their ability and potential. The second is the proliferation of certificate programs: with few cataloging and rating services available, the vetting effort is haphazard and fraught with risk. Finally, many for-profit institutions practice predatory behavior, preying on the poor and vulnerable.

4. Figuring finances and risk
Against the relentless rise in the cost of higher education, this section examines three more-solvable financial issues: over-paying and over-borrowing, including the abuses of many for-profits; the financial burden of “extra” years of college at a time when only 56% of students at four-year institutions earn a bachelor’s degree within six years; and the financial burden of ending up with “some college and no degree.” That latter is a chronic problem impacting almost 25% of those initially enrolling in a bachelor’s program and nearly half of those who initially enroll in community college.

5. Cultivating social capital
One of the outcomes designed into the MyWays competencies is the ability to cultivate the relationships and social capital needed to navigate the work/learn landscape. It takes many allies, proponents, advisors, and contacts to make it through a college career successfully. Furthermore, students should be actively using their college years to meet people and build connections, which is increasingly essential to securing employment and advancing a career. Shortage of social capital is particularly problematic for low-income students and students of color (see Report 4).

**Takeaway 1:** The first takeaway for next generation educators is that the opportunity gap will continue to worsen until we both improve academic preparedness for college and create new systems to facilitate student success in the work/learn landscape. Currently, only one-third of students are academically prepared for college and half of all young people are failing to earn a postsecondary degree or certificate. As educators and advocates for youth, we must examine the wider system holistically and ask the central question: How can we improve young people’s ability to successfully navigate an increasingly complex work/learn landscape? As the graphic below shows, our research suggests that there are four hindering forces at work, and three potential beneficial forces that need attention. The remaining takeaways will explore these forces.
Takeaway 2: The postsecondary system has four hindering forces that are suppressing outcomes: poor career mapping and counseling, uneven quality of postsecondary programs, escalating tuition costs and student debt, and competing pressures on students. Mitigation of these forces will improve outcomes, yet high schools and communities are very slow to take up this work. To effectively address these forces, we need cross-sector collaboration at the state, regional, and local level.

Part of this collective action should aim at improving how we integrate and present information to students (both mapping and counseling). For example, 2Revolutions has worked with schools and communities to more clearly map career options in fields such as health care, weaving together potential positions, salary ranges, and education requirements (see the “District 79” graphic). In Report 4, we describe how Earlham College is mapping its entire alum community, along with their college majors and occupations, for the benefit and use of current students.

![District 79 graphic](image)

Source: 2Revolutions

Takeaway 3: As a nation, we need to foster the broader, deeper competencies to do college-level work and navigate the work/learn landscape. This is the first helping force in the force field diagram above.
Although it is common to think of academic preparedness narrowly in terms of math, ELA, and other Content Knowledge competencies discussed in Report 7, David Conley’s readiness research underscores the related importance of Habits of Success (the “tools of inner strength”), Creative Know How (the “tools of improvisation”), and the obvious importance of Wayfinding Abilities (the “tools of navigation”). Report 10 reviews why Wayfinding Abilities are so important in navigating the work/learn landscape; describes the five Wayfinding competencies in greater detail; summarizes the “state of play” today in Wayfinding learning and assessment practices; and offers links to Wayfinding resources, frameworks, and school models. The report also discusses four key principles for helping students in the Wayfinding Abilities domain: 1) start early; 2) harness the Wider Learning Ecosystem; 3) access the support necessary; and 4) address barriers to equity. The report ends with full-page primers on each Wayfinding competency, their key aspects, and where to look for inspiration and guidance.

**Takeaway 4: We must build work/learn pathways that structure information, opportunities, and support for students beyond traditional K-12 education.** This is the second helping force. The Harvard Graduate School of Education’s *Pathways to Prosperity* powerfully articulates the need to build multiple pathways and interconnections for career exploration. The authors argue that “every high school graduate should find viable ways of pursuing both a career and a meaningful postsecondary degree or credential” and that one part of this preparation is embedded in the Career-Related Technical Skills in the Content Knowledge competency domain (Report 9). The current system “places far too much emphasis on a single pathway to success: attending and graduating from a four-year college,” which only 30% of young adults achieve. Instead, pathways proponents argue for a marriage of academic and vocational education, including apprenticeships and internships, career technical education (including career academies), early certification attainment, and closer employer partnerships. Not only do these experiences develop students’ ability to navigate the work/learn landscape, but they also enhance motivation and academic achievement. Other forms of pathway building include dual enrollment and other postsecondary experiences during high school. For more on these approaches, see Wayfinding Abilities (Report 10) and

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**Additional Resources on Building Career Pathways**

- **Career Pathways: Five Ways to Connect College and Careers.** Georgetown University Center on Education and the Workforce. Focus on regional alignment of workforce needs/projections with postsecondary offerings and student support.

- **Creating Pathways to Prosperity: A Blueprint for Action.** Harvard Graduate School of Education. This guidebook for educators and practitioners is a follow up to the school’s original report.

- **Youth Workforce Development.** Jobs for the Future. This report surveys various programs and resources.

- **MDRC Research on Career Pathways.** MDRC. This issue brief describes the career pathways approach, core design elements, and profiles.

- **New Pathways to Careers and College: Examples, Evidence, and Prospects.** MDRC.
the Wider Learning Ecosystem (Report 11). Fortunately, there is growing interest and activity in career pathways. Following are several worthwhile resources:

**Takeaway 5: We must also develop webs of support, especially to help low-income students and students of color build the social capital that they are frequently missing.** During these critical years, adolescent isolation — on top of the scarcity of supporters, mentors, advisors, and acquaintances — is undermining young people’s preparation for the Decisions they will make attempting to navigate the work/learn landscape. This isolation from adults is a cultural fabrication not supported by biology; in fact, adolescent brain research indicates that these years are a period of great promise. Making adolescence more relevant and productive is the topic of Report 5, where we discuss key developmental tasks that educators, parents, and youth-serving partners can help facilitate.

First, however, we turn to Report 4, *5 Essentials in Building Social Capital*, where we examine how gaps in social capital inhibit economic mobility and describe ten programs that are turning around lives through social capital.
Endnotes for Report 3


2 Symonds et al., *Pathways to Prosperity*, p. 13.


11 http://www.businessballs.com/consciouscompetencelearningmodel.htm


15 Balfanz et al., *Closing the College Gap*, p. 13. Note that “half of recent high school graduates” is approximately equal to one-third of the 9th grade cohort when dropouts are considered. To determine current levels of college readiness, the researchers applied the two metrics that have the strongest evidence — high school course taking and GPA (see Part II of their report for a detailed discussion).

16 Symonds et al., *Pathways to Prosperity*, p. 6.

17 Ibid., p. 10.


19 Balfanz et al., *Closing the College Gap*, p. 8.
Author’s calculations based on data reported in Balfanz et al., *Closing the College Gap*. The key calculation was to add back to the cohorts those students who left high school before graduation.

To determine levels of college readiness, *Closing the College Gap* researchers applied the two metrics that have the strongest evidence – high school course taking and GPA (see Part II of their report for a detailed discussion).

Statistics in this paragraph are authors’ calculations based on three sources: *Closing the College Gap*, especially page 13; The Education Trust, *Falling Out of the Lead: Following High Achievers Through High School and Beyond*, April 2014; and National Center for Children in Poverty, *Basic Facts about Low-Income Children*, 2014.


Center for Community College Student Engagement. *Expectations meet reality: The underprepared student and community colleges*, Austin, TX: The University of Texas at Austin, College of Education, Department of Educational Administration, Program in Higher Education Leadership, 2016.


Balfanz et al., *Closing the College Gap*, p. 13.

Based on low-stakes 10th grade reading and math assessment. The Education Trust, *Falling Out of the Lead: Following High Achievers Through High School and Beyond*, April 2014, Figure 2b. With authors’ calculations.

Ibid., p. 17.


Balfanz et al., *Closing the College Gap*, p. 10.


Balfanz et al., *Closing the College Gap*, p. 3.


US Department of Labor *Apprenticeship site*. Article on *The Underuse of Apprenticeships in America*, article on apprenticeships in accounting and consultancy in England, and article on increases in apprenticeships in S.Carolina.


Another resource is *Innovate + Educate*, a national nonprofit working across the US to create new pathways to training and employment based on competencies and skills. Innovate+Educate works with communities, foundations, venture capitalists, and workforce thought leaders to implement research-based, demand-led strategies that will lead to the national adoption of competency-based hiring and training by employers.


Cappelli, *Will College Pay Off?*, p. 17.
Ibid., p. 48.

44 Hadyn Shaughnessy, “Ecosystem, Network, or Community It is the Future of Work,” LinkedIn blog, February 20, 2015.

45 Balfanz et al., Closing the College Gap, p. 7.


48 Symonds et al., Pathways to Prosperity, p. 13.

49 Jennifer Ma, Matea Pender, and Meredith Welch, Education Pays 2016: The Benefits of Higher Education for Individuals and Society, College Board. p. 11.

50 Ibid., p. 11.


52 Cappelli, Why Good People Can’t Get Jobs, p. 87.


54 Balfanz et al., Closing the College Gap, p. 8.

55 Ibid., p. 8.

56 Symonds et al., Pathways to Prosperity, p. 6.


58 Rosenbaum et al., The New Forgotten Half and Research Direction to Support Them, p. 4.

59 Balfanz et al., Closing the College Gap, p. 16.

60 Ibid., p. 14.

61 The College Board used standardized math test scores in 2004 for academic level.


63 Symonds et al., Pathways to Prosperity, p. 10.

64 Anthony P. Carnevale, Tamara Jayasundera, and Artem Gulish, America’s Divided Recovery: College Haves and Have-Not, Georgetown University Center on Education and the Workforce, 2016. p. 24.


67 Symonds et al., Pathways to Prosperity, p. 3.

68 Cappelli, Will College Pay Off?, p. 7.

69 Ibid., p. 24.


72 Symonds et al., *Pathways to Prosperity*, p. 15
73 Carnevale, “*White Flight is Creating a Separate and Unequal System of Higher Education*.”
75 Symonds et al., *Pathways to Prosperity*, p. 7.
76 As quoted in Carnevale et al., *Learning While Earning*, p. 8.
77 Carnevale et al., *Learning While Earning*, p. 11.
79 Carnevale et al., *Learning While Earning*, p. 11.
80 Ibid., p. 15.
81 Ibid., p. 15.
82 Jensen et al., *When Working Works*, p. 2.
84 Carnevale et al., *Learning While Earning*, p. 11.
85 Jensen et al., *When Working Works*, p. 3.
86 Ibid.
87 Carnevale et al., *Learning While Earning*, p. 11.
92 Ibid., p. 2.
93 Ibid., p. 2.
95 Cappelli, *Will College Pay Off?*, p. 11.
97 Ibid., p. 1.
100 Arbeit and Horn, *A Profile of the Enrollment Patterns and Demographic Characteristics of Undergraduates at For-Profit Institutions*, p. 3.
The citation for the acceptance of General Assembly courses by some community colleges is the webinar Alternative Credentials vs Degrees: Entrée, Complement, or Replacement. There is a brief summary of the summit (Saylor Summit in June 2017). The community college comment was from Jeremiah Shifflett from Lord Fairfax Community College.

Donald Asher, “6 Reasons College Students Don’t Graduate in 4 Years,” 2010.


Cappelli, Why Good People Can’t Get Jobs, p. 46.

Ibid., p. 29.


Symonds et al., Pathways to Prosperity, p. 10.


Ibid., p. 4.

Suzy Welch, “4 Career Lessons Bill Belichick Wants Millennials to Know (including his own kids),” article and video interview, CNBC.com, April 13, 2017.


Ibid., p. 81.

Nancy Hoffman, Let’s Get Real: Deeper Learning and the Power of the Workplace, Students at the Center, Jobs for the Future, February 2015, p.5.

Symonds et al., Pathways to Prosperity, p. 24.

One of the best summaries of the connection between authentic learning experiences and motivation and academic achievement is Leaving to Learn: How Out-of-School Learning Increases Student Engagement and Reduces Dropout Rates by Elliot Washor and Charles Mojkowski of Big Picture Learning, 2013.
5 Essentials in Building Social Capital

Report 4 of the MyWays Student Success Series

October 2017 for Next Generation Learning Challenges
About this report

Report 4, *5 Essentials in Building Social Capital*, summarizes the close connection between opportunities and relationships. While social capital is traditionally weak among young people in general, growing class segregation is creating a social capital crisis for less advantaged students. A key part of the wayfinding decade is securing social support, developmental relationships, and connections to resources through five types of social capital: *Caring Friends & Adults, Near-Peers & Role Models, Mentors & Coaches, Networks & Weak Ties, and Resources & Connectors*.

Report 4 is the fourth of five reports in Part A of the MyWays Student Success Series. Part A, “Adolescence in an Age of Accelerations,” analyzes the real-world changes and conditions that are most acutely impacting young people and outlines key developmental tasks of the adolescent years.

The *MyWays Student Success Series* examines the through-line of four essential questions for next generation learning and provides research and practice-based support to help school designers and educators to answer these questions. The series consists of 12 reports organized into three parts, plus a Visual Summary and Introduction and Overview.

The primary researchers and authors of the MyWays Student Success Series are Dave Lash, Principal at Dave Lash & Company, and Grace Belfiore, D.Phil., Principal Consultant at Belfiore Education Consulting.

MyWays is a project of Next Generation Learning Challenges, an initiative of the non-profit EDUCAUSE. MyWays is supported through a grant from the William and Flora Hewlett Foundation with additional support from the Bill & Melinda Gates Foundation, the Barr Foundation, and the Oak Foundation.
REPORT 4

5 Essentials in Building Social Capital

“Opportunities do not float like clouds. They are firmly attached to individuals. If you’re looking for an opportunity, you’re really looking for people. If you’re evaluating an opportunity, you’re really evaluating people. If you’re trying to marshal resources to go after an opportunity, you’re really trying to enlist the support and involvement of other people.”

— Reid Hoffman and Ben Casnocha
The Start-Up of You

This report explores the crucial role that social capital plays in the wayfiding decade, building on the previous Report 3 which introduces Cultivating Social Capital as the fifth of the 5 Decisions in navigating the work/learn landscape.

The 5 Essentials in Building Social Capital constitute the third part of the 5-5-5 Realities construct that summarizes key challenges facing students in this age of accelerations. The 5 Roadblocks to Bootstrapping a Career (Report 2) identify five shifts in the labor market that are making it more difficult to find and maintain gainful employment, especially for young people with less than a bachelor’s degree. The 5 Decisions in Navigating the Work/Learn Landscape (Report 3) describe five shifts in the work/learn landscape of postsecondary education, including early work opportunities for today’s emerging young adults and the crucial decision-points they face in navigating that landscape. As these shifts accelerate, social capital becomes more and more critical to the ability to adapt, yet social capital is becoming less and less accessible to the low-income students and students of color who need it the most.

“Social capital” was introduced into modern usage by urban advocate Jane Jacobs in her 1961 book, The Death and Life of Great American Cities. Arguing against the sweeping demolition of hundreds of urban neighborhoods and their replacement with highways or homogeneous single-use developments, Jacobs unpacked the social and economic workings of successful cities. The very density and diversity of people and activities, she proffered, and the rate of informal contact and access between them — that is, their social capital — make cities great. To her lasting credit, Jacobs’ principles of urban vitality catalyzed a dramatic paradigm shift in urban planning and a renaissance in the livability of American cities.

Key reading

Our Kids: The American Dream in Crisis by Robert Putnam

“’I Didn’t Know You Could Just Ask’: Empowering Underrepresented College-Bound Students to Recruit Academic and Career Mentors” by Sarah E.O. Schwartz et al.

On-Ramps, Lane Changes, Detours, and Destinations, by Hive Research Lab

Defining Webs of Support by Shannon M. Varga and Jonathan F. Zaff, Center for Promise
Today, another paradigm shift is needed: rethinking the role that schools play in retarding or nurturing the social capital of young people. While schools today concern themselves with school climate, social-emotional learning, counseling, and other important forms of student well-being, very few schools include in their mission the deliberate development of social capital resources that students carry with them into the work/learn landscape. Service learning, place-based learning, and internships can all contribute to empowering students’ social capital through the relationships they gain; typically, however, such programs are designed for the near-term quality of the learning experience and not the long-term durability of the social capital. As a result, much of the social capital potential of these experiences is lost.

Social capital, as described by Ricardo Stanton-Salazar, consists of “resources and… social support embedded in one’s networks or associations, and accessible through direct or indirect ties.” 2 Those resources include information, opportunities, material resources, and a wide range of social and emotional supports. 3 Some researchers distinguish between bonding social capital (emotional support, companionship, validation) and bridging social capital (informational and instrumental support). 4 As we have shown in Reports 2 and 3, social capital is a crucial part of a personal opportunity engine for advancing learning and employment. Challenging roadblocks and decisions in the work/learn landscape require harnessing as much knowledge, advice, and opportunity as possible — wherever one can find it. As in any unfamiliar territory, our first survival skill in a tumultuous work/learn landscape is the capacity to learn from others. Securing help with what we don’t know is second nature for effective adults. Unfortunately, most young people have few social assets beyond their immediate circle of family, peers, and school. And, typically, young people are neither practiced nor skilled at utilizing what social capital they do have from within this circle or beyond.

Here are what we believe to be the 5 Essential types of social capital: 5

1. **Caring Friends & Adults**: Emotional support, companionship, and validation provided by family members, peers, and close relationships with unrelated adults.

2. **Near-Peers & Role Models**: Ideas, inspiration, and behavior patterns explained or modeled by direct contacts, or individuals “met” only through history, entertainment, or other worlds (including fiction).

3. **Mentors & Coaches**: Informational support, counseling, emotional support, and validation built on a relationship of mutual knowledge and trust.

4. **Networks & Weak Ties**: Connections to any form of social network including one’s “strong ties” (friends and close relationships) and “weak ties” (acquaintances and friends of acquaintances).

5. **Resources & Connectors**: Informational, instrumental (financial, material, services), and social support accessed through networks and individuals helping bridge or broker connections.

This formulation identifies roles, not people. Parents and teachers, for example, often play many of these roles. We will return to these 5 Essentials in the following pages, along with a developmental framework for social capital created specifically for next generation educators.
First, however, we look at how each new generation has traditionally acquired social capital and how that process has changed. One of our earliest and most respected scholars on social capital, Robert Putnam, builds a powerful case that low-income students and students of color today have far less access to the people, relationships, and social networks upon which strong social capital is built. We examine these changes and the reasons why.

**Splitting America into the social capital haves and have-nots**

“Over and over again members of the class of 1959 use the same words to describe the material conditions of our youth: ‘We were poor, but we didn’t know it.’ In fact, however, in the breadth and depth of community support we enjoyed, we were rich, but we didn’t know it.”

— Robert Putnam

*Our Kids: The American Dream in Crisis*

Putnam argues in *Our Kids* that children’s success in life is deeply influenced by the social capital embodied in their families, schools, and communities, and that powerful stratifying forces are splitting Americans into social capital haves and have-nots. This polarization is the third form of societal acceleration with profound implications for student competencies and education, along with the rapid changes in the labor market and postsecondary world described in Reports 2 and 3. Accordingly, we summarize Putnam’s work here.

Paralleling the well-publicized polarization of income and wealth over the past 50 years, Putnam explains that social capital (“family, school, and community support”) has also stratified, and that it is the key to children’s well-being and growth. He uses his own high school class (“the class of 1959”) to illustrate: While most of his classmates came from families of modest means, the neighborhoods, schools, and churches in his hometown of Port Clinton, Ohio were well mixed: “socioeconomic class was not nearly so formidable a barrier for kids of any race, white or black, as it would become in the twenty-first century.”

Prospects in 1959 were good but about to change:

As my classmates and I marched down the steps after graduation in 1959, none of us had any inkling that change was coming. Almost half of us headed off to college, and those who stayed in town had every reason to expect they would get a job (if they were male), get married, and lead a comfortable life, just as their parents had done. For about a decade those expectations were happily met…. But just beyond the horizon an economic, social, and cultural whirlwind was gathering force nationally that would radically transform the life chances of our children and grandchildren.

Putnam pauses to frame this impending shift in the context of American values and attitudes of equality of opportunity and social mobility. The shift to unequal beginnings and unequal prospects for advancement, he argues, poses a “momentous problem in our national culture.”
Putnam begins his analysis with the trends in income inequality, emphasizing that “in the 1980s the top began to pull away from everyone else, and in the first decades of the twenty-first century the very top began pulling away even from the top.” He underscores that income inequality rose even within each major racial/ethnic group “as richer whites, blacks, and Latinos pulled away from their poorer co-ethnics.” This growing economic gap “has been accompanied by growing de facto segregation of Americans along class lines” while “race-based segregation has been slowly declining.”

It is useful to note that Putnam’s indicator of “class” (and stratification) is parental education, which he indicates is typically “the more powerful predictor of child-related outcomes” compared to family income. He acknowledges many other aspects of class — occupation, culture, social status, and self-identity among them. However, because these indicators are often closely inter-correlated, it is appropriate to “operationalize social class by 'education, the most important resource in today’s knowledge-based economy.'”

The result are three groups of roughly equal size: “upper-class” or “college-educated” homes with at least one parent graduating from college; “middle-class” homes where parents have some postsecondary education; and “lower-class” or “high-school-educated” homes where neither parent went beyond high school. These three groups are physically and socially becoming more and more segregated. How did this segregation happen? Putnam examines three aspects of class segregation: neighborhood separation, education segregation, and the decline in cross-class marriages. Together, they have altered the landscape for public education. We provide a brief overview here of these trends and then examine each of the 5 Essentials individually.

**Neighborhood separation**

Putnam summarizes: “Whether we are rich or poor, our kids are increasingly growing up with kids like them who have parents like us.” Between 1970 and 2009, the percentage of all families living in predominantly middle-income neighborhoods fell from 65% to 40%; families living in low-income or poor neighborhoods rose from 19% to 30%; and families living in high-income neighborhoods nearly doubled from 16% to 30%. Putnam notes that this class segregation is occurring within each major racial group: “Affluent and impoverished black (or Latino) families are less likely to be neighbors now than they were 40 years ago.”

Neighborhood segregation is not solely the byproduct of free market consumer choice. It originated in deliberate federal, state, and local government policies that created exclusively white suburbs and segregated public housing. Richard Rothstein chronicles this shift in *The Color of Law*, which “brings together in one place all of the governmental actions that created residential segregation” and the inequality of social capital that exists today.
When neighborhoods are diverse and vital, with a healthy rate of social contact between people of varied backgrounds, young people grow up exposed and connected to people with a wide variety of occupations, lifestyles, and social network involvements. The benefit of higher education is visible in neighbors and local businesses. Concentrated low-income and poor neighborhoods, on the other hand, rob young people of nearby benchmarks and role models through which to envision and pursue their own aspirations and plans. “College” becomes an alien, abstract aspiration rarely experienced by family, friends, and neighbors who can model and support the journey.

**Education segregation**

Class-based school segregation begins in neighborhood separation. Putnam describes this as follows:

> Schoolchildren from the top half of the income distribution increasingly attend private schools or live in better school districts. Even when poor and wealthier schoolchildren live in the same school district, they are increasingly likely to attend separate and unequal schools. And often within a single school, AP and other advanced courses tend to separate privileged from less privileged kids. Later on, kids from different class backgrounds are increasingly sorted into different colleges: for example, by 2004, kids from the top quarter of families in education and income were 17 times more likely to attend a highly selective college than kids in the bottom quarter.\(^{17}\)

In its study of poverty and high school dropouts, the American Psychological Association concluded that students living in poverty were five times more likely to drop out than high-income students, with high-poverty schools at the heart of the problem:

> In 2009-2010, 9 percent of all secondary students attended high-poverty schools (where 75 percent or more of the students are eligible for free or reduced price lunch), but 21 percent of Blacks and Hispanics attended high-poverty schools, compared to 2 percent of Whites and 7 percent of Asians. More than 40 years ago, famed sociologist James Coleman demonstrated that a student’s achievement is more highly related to the characteristics of other students in the school than any other school characteristic. Subsequent research has confirmed this finding and even found that the racial/ethnic and social class composition of schools was more important than a student’s own race, ethnicity and social class in explaining educational outcomes.\(^ {18}\)

Sadly, these are familiar patterns to educators. School achievement levels are tightly correlated with school-level poverty and these economic disadvantages often manifest through differences in social capital between affluent and poor schools — differences, that is, in individual and family risk factors, community and environmental effects, and resource inequality.\(^ {19}\) (For more details, see *The Turnaround Challenge, Supplemental Report* and *Hidden Inequities: An Education Week Analysis*.) To combat these challenges, schools have instituted a wide range of interventions, as we discuss below. All too often, however, low-income students are attending school without the social capital to scaffold their preparation for college (and
help them persist and succeed there). As Putnam remarks, “They know that everybody goes to college, and they don’t know what that means… They’re going down that path without anybody holding their hands.”

**The decline in cross-class marriages**

Putnam further describes how the education-based class segregation in neighborhoods and schools is also reflected in modern marriage patterns:

In the second half of the [twentieth] century Americans increasingly married people with educational backgrounds similar to their own, with the most educated especially likely to marry one another…. The decline in cross-class marriages has implications for the composition of extended families. Two generations ago, extended family gatherings might bring together small businessman and manual workers, professors and construction workers, but the ripple effects of increasing endogamy (marrying within your own social class) ensure that one’s kin networks today — and even more, tomorrow — are likely to be from the same class background as oneself, further reducing cross-class bridging.

**The net effect of neighborhood, school, and marriage polarization**

For children in less-educated families, the shifts that Putnam documents result in altered family structures, class-segregated neighborhoods, schools with fewer caring adults, fewer near-peers and positive role models, fewer mentors and coaches, fewer networks and acquaintances, and fewer resources and connectors to mobilize toward a better life. At the family level, high-school-educated mothers typically have their first children in their late teens or early twenties — 10 years earlier than college-educated mothers — although “older parents are generally better equipped to support their kids, both materially and emotionally.”

Furthermore, less-educated parents are increasingly unmarried and having unplanned children. Non-marital births now account for two-thirds of all births to mothers with a high school diploma or less, three times the rate in 1977 (graph below). Most of these children grow up in a single-parent family.
Divorce rates, unstable cohabitation, and employment rates for mothers are all substantially worse for children of less-educated mothers, as Putnam summarizes:

Regardless of its causes, this two-tier family pattern has had an unmistakable effect on kids’ lives. In the upper, college-educated third of American society, most kids today live with two parents, and such families nowadays typically have two incomes. In the lower, high-school-educated third, however, most kids live with at most one of their biological parents, and in fact, many live in a kaleidoscopic, multi-partner, or blended family, but rarely with more than one wage earner. Scores of studies have shown that many bad outcomes for kids are associated with the pattern now characteristic of the lower tier, whereas many good outcomes for kids are associated with the new pattern typical of the upper tier.23

These outcomes do not imply that less-educated parents care less about their children. An insidious variety of factors relating to poverty place stresses on families, parents, and children. Yet as Brookings researcher Isabel Sawhill says, “Generalizations are dangerous; many single parents are doing a terrific job under difficult circumstances. But on average, children from single-parent families do worse in school and in life.”24 Our focus in this report is on how these stresses are manifested through reduced levels of social capital that narrow opportunities and limit the likelihood of successful adulthood. This happens first by undercutting personal well-being and academic preparedness in the pre-kindergarten, primary, and secondary years. It happens second, as Putnam notes, by “removing the stepping-stones to upward mobility” in the form of resources available through social connections:

Ultimately, growing class segregation across neighborhoods, schools, marriages (and probably also civic associations, workplaces, and friendship circles) means that rich Americans and poor Americans are living, learning, and raising children in increasingly separate and unequal worlds, removing the stepping-stones to upward mobility — college-going classmates or cousins or middle-class neighbors, who might take a working-class kid from the neighborhood under their wing.25

In truth, adolescents of every background require not only a caring classmate or neighbor, but a robust “network of socialization agents, natural or informal mentors, pro-academic peers, and institutional agents [high-status, non-kin individuals] distributed through the extended family, school, neighborhood, community, and society.”26 Stanton-Salazar underscores that “middle-class parents do not operate alone, but are embedded in the social network of institutions, school personnel, institutional agents and youth-serving organizations in the community.”27 In contrast, children in segregated, stratified communities face a “constricted social universe,”28 where schools play a particularly pivotal role in the social ecosystem. Unless these schools restructure themselves profoundly, they will continue to perpetuate and deepen class segregation and the opportunity gap.
Once again, this is not to imply that working-class communities are not places of richly layered social interaction and relationships with family, peers, and other community members. These researchers are simply pointing out that, increasingly, there is little movement between and few connections across these communities and more affluent ones. Public schools are the one institution with the potential to provide or promote the restorative experiences that under-resourced students need to build social capital and “learn to negotiate and participate in [the] multiple sociocultural worlds” required for success. Stanton-Salazar, a leading researcher in the field of social capital and empowerment of low-status youth, describes the necessary socialization and engagement with various agents and significant others:

Each world requires adoption or execution of certain social identities, and effective accommodation to a system of values and beliefs, expectations, aspirations, ways of using language, and emotional responses familiar to insiders.  

Or, as noted Boston inner-city charter school head Meg Campbell (founder of Codman Academy) notes: “If students coming to Codman aren’t in our gang, they’re going to be in somebody else’s.” Each world embodies a distinct cultural discourse, or way of being in the world, that is “not mastered by overt instruction but by ‘apprenticeship’ into social practices through scaffolded and supported interaction with people who have already mastered the discourse.” The more students and youth are disadvantaged by class segregation, the more imperative it becomes to deliberately create this kind of apprentice learning in all the sociocultural worlds related to success in learning, work, and life.

**Addressing social capital gaps: arguably the second largest movement in public education over the past 15 years**

Before we proceed to describe the work needed to restore a sufficient level of social capital to every student, regardless of parents’ education and income and degree of social segregation, it is important to observe the extraordinary measures already being taken, and that are growing every day, to address gaps in social capital. Few schools or districts, if any, have an explicit “social capital” plan or agenda, yet virtually every school and district has joined the “movement” in some way through at least some of the efforts listed in the table below. The cumulative effect is a broad and growing education movement around social capital and sociocultural acclimation that is arguably larger than any other aside from standards-based reform. The next natural stage in this movement, we believe, is to properly label these disparate restoration efforts as components of a broad social capital infrastructure, and begin integrating and strengthening their combined impact.
### Social Capital Breakdowns and Restoration Efforts within preK-16 Education Today

<table>
<thead>
<tr>
<th>Evidence of social capital breakdowns</th>
<th>Pre-kindergarten</th>
<th>Primary &amp; secondary</th>
<th>After high school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten readiness gap</td>
<td>Not finishing high school</td>
<td>Lack of college preparedness</td>
<td>Not in school or working</td>
</tr>
<tr>
<td>Executive function issues</td>
<td>Toxic stress, substance abuse, teen pregnancy</td>
<td></td>
<td></td>
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<tr>
<td>Reduced vocabulary and little reading in the home</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Social capital restoration efforts</th>
<th>Pre-kindergarten</th>
<th>Primary &amp; secondary</th>
<th>After high school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy start programs</td>
<td>Wraparound supports</td>
<td>Community schools</td>
<td>College awareness and exposure programs</td>
</tr>
<tr>
<td>Developmental screenings</td>
<td>After school programs</td>
<td>Positive youth development</td>
<td>Mentoring programs</td>
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<tr>
<td>Early Head Start</td>
<td>Social-emotional learning</td>
<td>Parent engagement</td>
<td>Career pathways programs</td>
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<tr>
<td>High-quality early learning</td>
<td>Immigrant integration</td>
<td>Early-examining dropout prevention programs</td>
<td>College financing advice</td>
</tr>
<tr>
<td>Caregiver training</td>
<td>Early-warning dropout prevention programs</td>
<td>Mentoring and near-peer initiatives</td>
<td>College persistence programs</td>
</tr>
<tr>
<td>Two generation programs</td>
<td>Teacher home visits</td>
<td>Civic engagement initiatives</td>
<td>Youth employment opportunities</td>
</tr>
<tr>
<td>Parenting programs</td>
<td>Career pathways programs</td>
<td>Internships and youth jobs</td>
<td>National College Access Network</td>
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<tr>
<td>Home visiting programs</td>
<td>Health education</td>
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<tr>
<td>Early literacy</td>
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<td></td>
<td>Internships and apprenticeships</td>
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<tr>
<td>Immigrant integration</td>
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<tr>
<td>Health education</td>
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</tbody>
</table>

If this social capital movement continues to expand and deepen, it will help close achievement gaps and improve life outcomes. Framing the matter in personal terms, Paul Reville, the former Massachusetts Secretary of Education, describes a typical night at his own house, where his daughter and her friends receive bountiful advice, recommendations, and other assets:

This is social capital at work… the benefits of this working capital are typically and regularly accruing to other advantaged youngsters who, like my daughter, profit not only from the assets of affluence (camp, lessons, summer travel, and so forth), but from the contacts and influence of their parents and their parents’ friends. As is the case with financial capital, the rich get richer. If we were providing such services to disadvantaged youngsters, we would dub this activity "wraparound services." It would be thought of as "an extra," not an essential part of a child's education or development.³³

To close achievement gaps will require, Reville notes:

…a comprehensive system of child and youth development and education will be needed. All children will need social capital and basic health and mental-health support. All children will need early-childhood education and access to after-school and summer-enrichment activities. All children will need consistent support and guidance as they face the challenges of learning in school, succeeding in college, and finding meaningful, remunerative work. Schools, as currently constituted, are not set up to do all this work, but those of us who enjoy privilege know that this is what it takes for our children to succeed.³⁴
Understanding social capital as a developmental system

Is it possible that social capital is the limiting factor in today’s economic mobility system? We believe that is precisely what the research shows.

A “limiting factor” is a system variable such that “a small change in it from the present value would cause a non-negligible change in an output or other measure of the system.” Social capital (“resources and social supports embedded in one’s networks or associations”) has been shown to differentiate successful education attainment, career advancement, and entrepreneurship as well as personal satisfaction and well-being. Conversely, Putnam and other researchers have demonstrated that gaps in social capital among children and young people caused by neighborhood, school, and marriage polarization have a devastating impact on their ability to develop and lead healthy, successful lives. Fortunately, promising research in childhood trauma mitigation, positive youth development, mentoring, and college persistence points to the power of social capital development to change lives. Our challenge is to translate these successes into new social structures and experiences that build social capital and empower young people, especially low-income students and students of color.

The MyWays team has created a developmental framework for social capital (graphic) that integrates some of the most relevant research. Youth systems researchers at the Center for Promise, for example,
have developed a *web of support* framework to describe the interplay of relationships, resources, and social networks needed for healthy youth development. We use the Search Institute’s well-regarded developmental relationships framework to describe the critical contribution of supportive adults. As the researchers Stanton-Salazar, Roderick J. Watts and Constance Flanagan, and Paulina Billett have independently demonstrated, youth social capital is a developmental process — far more so than adult social capital. Two research-to-action teams — the Hive Research Lab in New York City and the Boston team of Sarah E.O. Schwartz, Jean E. Rhodes, and their colleagues — are working to support young people in building more robust social capital, as described later in the report.

The resulting developmental framework is comprised of the following elements:

- **Every individual requires 5 Essential types of social capital**
  
  From *Caring Friends & Adults* to *Resources & Connectors*, these 5 Essentials span both the *bonding* social capital (emotional support, companionship, validation) and the *bridging* social capital (informational and instrumental support) that every child, adolescent, and adult requires for healthy development and success. These roles are embedded and evolve within relationships with parents and friends, teachers and other institutional agents, and neighbors and acquaintances. When these individuals fulfill multiple roles with a particular recipient, Stanton-Salazar notes, “their potential to empower an individual increases considerably.”

- **“Well-being” and “Resources” are two sides of the same social capital coin**
  
  Social capital plays “two very important roles in the life of young people,” Billett says, “as a support in times of need and as social leverage to get ahead.” In short, she says, social capital helps us “get on and get ahead.” Both roles — noted in the framework as the mutually reinforcing Well-being and Resources — originate in the social circumstance in which young people grow up, according the Center for Promise, which is studying the systems and ecological context of youth development:

  Youth are embedded within a multi-layered ecology, from more proximal connections with peers, family, and school to more distal layers, such as major social institutions, social and cultural norms, and belief systems that shape society.

  Stanton-Salazar studies how class influences these ecologies:

  The higher the class position of the individual, the more likely he or she is embedded in social networks that afford high levels of accessibility to institutional agents with high degrees of human, cultural and social capital, and who are situated in high-status positions characterized by highly valued societal resources.
Conversely, the lower the class position of the individual, the more constricted the social universe is likely to be, and the less likely it is that the resulting social capital fully enables the individual to get on and get ahead — and the more likely it is that social mechanisms will result in the “social reproduction of class inequality.” To interrupt these patterns, we need to develop counter-stratification strategies and interventions that can buttress the social systems of individuals and empower the building of durable social capital.  

● **Social capital is rooted in the social supports that students receive**  
When a young person’s needs are met by a robust, multi-layered social ecosystem of networks and relationships, the probability is increased of a “positive developmental trajectory” (e.g., academic, social-emotional, physical, vocational, and civic trajectories). The Center for Promise calls this ecosystem a *web of support.*

![Depiction of a web of support by the Center for Promise as a network of relationships across contexts such as family, school, afterschool, community, and other.](image)

Source: Center for Promise. Defining Webs of Support. February 2017

Stanton-Salazar, summarizing James Coleman, emphasizes that such a web, when robust and healthy, is also the incubator of socialization and social integration, “a groundwork of trust and reciprocity, and the accumulation of experiences of mutual benefit, which together, allow the formation and enforcement of norms and sanctions that… guide social life.” Without this foundation in the quid pro quo of working with others, the building of constructive relationships and social networks is sharply curtailed, along with the resources and opportunities that derive from such connections. Weaken that foundation, and problems ensue.
First, there are the direct impacts. Researcher David Berliner points to where the social science data leads: “Outside-of-school factors are three times more powerful in affecting student achievement than are the inside-the-school factors.”

Consider the following indicators, which comprise a widely used index of societal health:

- Child well-being
- Mental health
- Illegal drug use
- Infant mortality
- Maternal mortality
- School dropouts
- Economic mobility
- School achievement
- Rates of imprisonment

Each of these indicators links back to insufficient social supports, at home and at school, or in the neighborhood or community. As noted earlier, schools and communities have mounted a growing movement to mitigate these gaps in social supports. This remains a top priority since, as we saw in Report 3, only a third of US students are academically prepared and only 1 in 10 disadvantaged students perform within the highest academic quartile. Better social supports are essential to bending this curve.

In addition, inadequate social support has detrimental impacts — including family instability, abuse, trauma, or neglect — that harm both the individuals and their future social capital building abilities; this fact rarely receives attention. We tend not to connect the dots, but as Billett notes, “Social capital is not formed in isolation,” but is built on the groundwork of trust and reciprocity, and the accumulation of experiences of mutual benefit noted above:

The primary function of networks and their ties is the production and reproduction of trust between individuals. Without trust, it would be almost impossible to network with others. Trust is one of the most important components of social capital, being not only a precursor of a successful network, but also an important by-product of networking. There are two types of trust: “thick” and “generalised” trust. Thick trust is shared between bonding networks and is demonstrated in the sharing of our most precious resources, such as lending money or leaving one’s children in the care of friends. Generalised trust — the trust that we share with most other individuals — manifests itself as the expectation that others are honest and is often linked to community cohesion and higher population health.

Trust is a product of relationships and the Center for Promise focuses on how each relationship is seen in the context of other relationships:
Although considering the unique influence that a given person can have on a young person’s educational outcomes is important, the effect of any relationship will inevitably be influenced by the other relationships that a youth has in her life. For instance, youth who have a warm, encouraging relationship with their parents will possibly have an easier time connecting with and deriving benefits from their teachers. On the other hand, youth who have neglectful or abusive parents can have a more difficult time bonding with their teachers. Thus, considering a young person’s web of support can change the way practitioners think about positioning themselves to assist youth and inform the resources they seek out for the youth.\(^51\)

- **The trunk of the social capital tree is made of adult developmental relationships**

  Having discussed the general role of trusting relationships in the building of social capital, we now turn to the importance of adult, non-kin developmental relationships. The Search Institute defines a developmental relationship as one that involves a dynamic mix of elements such that, “when developmental relationships are prevalent, development is promoted, and when this type of relationship is not available or diluted, interventions show limited effects.”\(^52\) The key elements in these relationships are expressing care, challenging growth, providing support, sharing power, and expanding possibilities. For all students, developmental relationships help them “discover who they are; develop abilities to shape their own lives; and learn how to engage with and contribute to the world around them.”\(^53\) For students lacking in a healthy web of support, as well as student of color isolated from the mainstream white world, these relationships can help repair the foundation of trust and reciprocity needed to invest in new relationships that, in turn, lead to the building of social capital that can be harnessed in pursuit of one’s goals.\(^54\) We discuss developmental relationships further in the Caring Friends & Adults section below.

- **The branches of the social capital tree are the social connections to resources**

  In essence, the MyWays Developmental Framework for Social Capital works a bit like Maslow’s hierarchy of needs. The roots at the bottom are the social supports that sustain human well-being and growth, and serve as the foundation of trust and reciprocity upon which relationships of mutual benefit can be built. One step above, comprising the trunk of the social capital tree, are adult developmental relationships that foster self-exploration, growth, and engagement in the larger world. At the top, the branches of the tree are the investments in ever-evolving connections, networks, and relationships of mutual benefit that can be harvested for the resources needed to accomplish one’s goals.

  Increasingly, growing, managing, and utilizing these social connections is not only how young people navigate the work/learn landscape, but how adults learn and work (see Decision 1 section of Report 3). In this age of accelerations, knowledge is constantly changing. The network intelligence to use connections to spot trends and opportunities, to gain and share knowledge, and to problem solve and collaborate becomes more crucial every day. The more worlds one
interconnects with, the more valuable and resourceful one can become. From high school on, we apply this network intelligence through the 5 Essentials:

Network intelligence is more difficult when class and racial/ethnic segregation isolates students of color from many of the multiple sociocultural worlds and discourses in which they must interact effectively to navigate successfully the work/learn landscape. In some cases, a bewildering maze of code-switching from one world to another is required, yet often there is little scaffolding or support for acquiring this skill. Informational resources for these students appear to be exceedingly limited; during our MyWays research on networking, relationship building, and career building, we found hundreds of general resources but almost none focused on the special challenges faced by students of color.

For all these reasons — lack of social supports, lack of trusting relationships, and class and racial/ethnic segregation — “a young person’s network orientation or help-seeking orientation many affect her ability to take up and navigate the opportunities brokered by high-resource individuals.”

**Three ways students can master social capital**

To build and utilize social capital effectively, students of all socioeconomic backgrounds must connect it to their pursuit of work/learn opportunities (as discussed in Report 3), to their competencies (Reports 6–10), and to their critical consciousness about the world around them.

**Using the opportunity engine to connect students to their pursuit of work/learn opportunities**

The personal opportunity engine we introduced at the end of Report 2 reflects the shift toward an on-demand economy in which work experience, in-demand skills, and social capital work in combination with degrees and credentials to advance young people beyond high school. Report 3 compared the development of a “traditional student,” who gives primary attention to securing a degree or credential over other assets, with that of an “opportunity student,” who works to cultivate all four assets simultaneously.

All students should be encouraged to become opportunity students and be provided the information and experiences they need to help them begin building and taking ownership of their social capital. We share how some organizations are approaching this goal in the remainder of this report.
**Connecting the MyWays competencies to building social capital**

More than half of the MyWays competencies are closely related to building or utilizing social capital — a significant departure from more traditional academic competency frameworks. As students develop broader and deeper competencies, they are increasingly equipped to master social capital. The following chart shows a few ways in which the MyWays competencies relate to social capital:

<table>
<thead>
<tr>
<th>Habits of Success</th>
<th>Creative Know How</th>
<th>Content Knowledge</th>
<th>Wayfinding Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Direction &amp; Perseverance</td>
<td>Creativity &amp; Entrepreneurship</td>
<td>Interdisciplinary &amp; Global Knowledge</td>
<td>Surveying Learn, Work, &amp; Life Landscapes</td>
</tr>
<tr>
<td>Learning Strategies</td>
<td>Communication &amp; Collaboration</td>
<td>Career-Related Technical Skills</td>
<td>Identifying Opportunities &amp; Setting Goals</td>
</tr>
<tr>
<td>Social Skills &amp; Responsibility</td>
<td>Information, Media, &amp; Technology Skills</td>
<td></td>
<td>Developing Personal Roadmaps</td>
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<tr>
<td></td>
<td>Practical Life Skills</td>
<td></td>
<td>Finding Needed Help &amp; Resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Navigating Each Stage of the Journey</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synergy between social health and self-development</td>
<td>Securing resources through others is a vital element</td>
<td>Cultural and societal awareness provide context for action</td>
<td>Interviews and chats with contacts are key to surveying</td>
</tr>
<tr>
<td>Help-seeking orientation is a key learning strategy</td>
<td>Other foundational competencies for social capital</td>
<td>Industry norms and practices provide context for action</td>
<td>Iterations with friends, mentors, and weak ties are vital</td>
</tr>
<tr>
<td>A foundational competency for social capital</td>
<td>Social media skills are part of building social capital today</td>
<td></td>
<td>Feedback and advice improves the quality of plans</td>
</tr>
<tr>
<td></td>
<td>Social experience and practical life skills go hand in hand</td>
<td></td>
<td>Network and help-seeking orientations are imperative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Resource needs change throughout the journey</td>
</tr>
</tbody>
</table>

**Developing critical consciousness as an essential aspect of building social capital**

We began this report with a summary of Putnam’s work on the extreme and still increasing class segregation in the US. For many low-income students and students of color, the ability to build social capital is blocked by their constricted social universe, the social attitudes and structures that perpetuate inequality, and their lack of experience and familiarity in navigating the multiple sociocultural worlds required for success. These students suffer from what John Gomperts of America’s Promise calls “relationship poverty.”

To overcome this disadvantage and begin to access what Putnam calls the *stepping-stones to upward mobility*, marginalized students need the ability to analyze the barriers in their path and develop strategies to combat them. For these students, “grit” must be complemented with “critical consciousness,” argues Scott Seider, a specialist in character development at Boston University:

Educators’ enthusiasm for grit can obscure the genuine obstacles that oppressive social forces such as racism place in the paths of youth from marginalized groups. Not acknowledging those forces increases the likelihood of youth attributing the effects of systemic obstacles to personal shortcomings and leaves them ill-equipped to navigate or challenge those obstacles when they encounter them.
For this reason, schools and educators who are enthusiastic about grit might be well-served to complement this work with programming and practices focused on critical consciousness. Critical consciousness is the ability to analyze, resist, and challenge the oppressive social forces that confront too many Americans and shape society. A growing body of research has found that high levels of critical consciousness are predictive in marginalized youth of higher academic achievement, mental health, resilience, and civic engagement. In explaining these relationships, Spelman College President Emeritus Beverly Daniel Tatum (1997), has written: “We are better able to resist the negative impact of oppressive messages when we see them coming than when they are invisible to us.” Other scholars have added that critical consciousness buffers marginalized adolescents against the negative effects of oppression by replacing feelings of isolation and self-blame for their challenges with a sense of engagement in a broader collective struggle for social justice.

…[T]he gritty and critically conscious young adult can identify the systemic obstacles in his or her path; recognize that these challenges are by no means theirs alone; and strategize individually and with others about how to overcome them. Perhaps, then, both proponents and opponents of grit can agree that complementing discussions of grit with opportunities for adolescents to deepen their critical consciousness will strengthen these young people’s capacity to thrive and contribute to the various communities of which they are a part.57

Applied to the task of building social capital, Seider’s critically conscious young adult is better equipped to “identify the systemic obstacles in his or her path” to multiple sociocultural worlds; “recognize that these challenges are by no means theirs alone”; and “strategize individually and with others” on how to build bridges to these worlds. Of course, for this to be possible, schools and their community partners must provide the experiences, support, and systems by which marginalized youth can decode the system and build social capital.

**Three ways adults can build social capital systems for young people**

This section discusses the multiple roles that institutional agents (high-status, non-kin individuals) play in an effective social capital system; the importance of cross-organizational partnerships and initiatives to connect schools to the work world, postsecondary world, and adult organizations; and how a variety of successful school-based and community-based initiatives weave the five aspects of the MyWays Developmental Framework for Social Capital into their program design.

**The multiple roles that institutional agents play in an effective social capital system**

In a 2011 paper, Stanton-Salazar explores institutional agents and their role in the empowerment of low-status students and youth. Institutional agents, he writes, “operate the gears of social stratification and societal inequality.”58 Stanton-Salazar nonetheless envisions how these institutional agents can become “empowerment agents.” He first identifies institutional agents: business owners and executives, university
administrators, community leaders, social workers, labor organizers, teachers, and other high-status, non-kin individuals dispersed “across key social spheres and institutional domains.” Noting that, for marginalized youth, “the development of supportive relationships with eligible institutional agents, and access to key forms of institutional support, are systematically complex and problematic,” Stanton-Salazar then identifies 14 roles that various institutional agents must play in constructing and sustaining an effective social capital system for marginalized youth (see the graphic above). Notice that many of these roles can also be observed in various youth development, wraparound services, and career pathway systems — as well as in the kinds of next generation learning needed to foster broader, deeper competencies such as those in the MyWays Student Success Framework. (For a summary of how Hive NYC is organizing institutional agents to broker learning opportunities and related social capital for youth, see its 2015 white paper.)

**Student-facing roles for institutional agents in a social capital system**

<table>
<thead>
<tr>
<th>Resource Agent</th>
<th>Knowledge Agent</th>
<th>Advisor</th>
<th>Advocate</th>
<th>Networking Coach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• provides personal and positional resources to students</td>
<td>• knows the &quot;system&quot;</td>
<td>• helps students gather information</td>
<td>• promotes and protects the interests of &quot;their&quot; students</td>
<td>• teaches students how to network with key institutional agents</td>
</tr>
<tr>
<td></td>
<td>• accesses or provides knowledge pertinent to navigating the system</td>
<td>• assesses problems and possible solutions in a collaborative manner</td>
<td>• promotes and guides effective decision making</td>
<td>• models appropriate networking behavior</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• develops relationships with influential people</td>
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</tbody>
</table>

**Integrative Agent**
- coordinates students integration and participation in networks and profes.s, venues (associations, department, school, etc.)

**Cultural Guide**
- guides students through new social situations in a particular cultural sphere
- teaches student to identify and interact with key people in sphere

**Recruiter**
- actively recruits students into program, department, etc.

**Bridging Agent**
- introduces students to institutional agents
- has a strong social network
- knows what key players do

**Behind the scenes roles for institutional agents in a social capital system**

<table>
<thead>
<tr>
<th>Program Developer</th>
<th>Lobbyist</th>
<th>Political Advocate</th>
<th>Institutional Broker</th>
<th>Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>• develops program that embeds students in a system of agents, resources, and opportunities</td>
<td>• lobbies for organizational resources to be directed towards recruiting and supporting students</td>
<td>• joins political action group that advocates for social policies and institutional resources that would benefit targeted groups of students</td>
<td>• negotiates introductions and agreements between two or more parties</td>
<td>• assesses students’ needs</td>
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<td></td>
<td></td>
<td>• knows what resources are available and who controls them</td>
<td></td>
<td>• identifies resources to address needs</td>
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<td></td>
<td></td>
<td></td>
<td>• provides or accesses institutional resources</td>
<td>• ensures students utilize resources</td>
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</table>


**The importance of cross-organizational partnerships and initiatives**

By definition, providing a robust, effective social capital system capable of providing social support, developmental relationships, and connections to resources is well beyond the capacity of any one school or organization. Many of the roles in the graphic above involve recruiting, connecting, and coordinating institutional agents and resources across a wide spectrum of community and workplace organizations. Ideally, this work involves creating a network of established networks rather than beginning from scratch. Examples of established networks include a cultivated-over-time community college network of participating employers, a youth development organization with a network of community mentors, and a school district’s network of wraparound service providers. Each of these examples have rich ties and
resources already embedded in their networks. Combining the resources of multiple players such as these is the challenge.

The same year as Stanton-Salazar’s paper (2011), John Kania and Mark Kramer reported on their analysis of cross-organizational collective impact, “We believe that there is no other way society will achieve large-scale progress against the urgent and complex problems of our time, unless a collective impact approach becomes the accepted way of doing business.”60 Kania and Kramer identified five key elements of successful collective impact: common agenda, shared measurement systems, mutually reinforcing activities, continuous communications, and a backbone organization.61 In Smart Cities That Work for Everyone, Tom Vander Ark and Mary Ryerse dedicate a chapter to chronicling how schools and education organizations are using collective impact to partner with other organizations to improve both academic and employment outcomes for students.62

In her foreword to their book, Cahill of the Carnegie Corporation writes that she came to see as essential an “ecosystem for learning” with “an ability to draw upon the assets of an entire city or community”:

Where does the ecosystem come in? [We need] to redefine “school” as a porous organization and redefine “partnership” as a core design element, not an add-on. When partnership is a core element of school design, students have opportunities for relationships with adults and experiences that literally expand the world that is well-known to them through connections with cultural organizations, professional and business settings, science and technical organizations, or community services.65 [italics added]

For these reasons, redefining “school” as a porous organization and “partnership” as a core design element is essential to building effective social capital systems.

**How a variety of successful school-based and community-based initiatives weave aspects of the MyWays Developmental Framework for Social Capital into their program design**

In the following two tables, we summarize 10 examples of programs that build social capital. Each example is described later in the report as well. Five of these examples are school-based and five are community-based, including higher education. We selected each program as an exemplar for one of the 5 Essentials, though all 10 programs leverage all 5 Essentials in varying degrees.
## School-based Examples and How They Leverage Each of the 5 Essentials in Building Social Capital

<table>
<thead>
<tr>
<th>Program</th>
<th>Caring Friends &amp; Adults</th>
<th>Near-Peers &amp; Role Models</th>
<th>Mentors &amp; Coaches</th>
<th>Networks &amp; Weak Ties</th>
<th>Resources &amp; Connectors</th>
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<tbody>
<tr>
<td>Self-Enhancement, Inc.</td>
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<td>Portland, Oregon</td>
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<tr>
<td><em>Intensive mentoring &amp; wraparound program</em></td>
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<tr>
<td>Extracurricular Activities</td>
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<tr>
<td>Most middle and high schools</td>
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<tr>
<td><em>Mixed age activities proximate to real world</em></td>
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<td>Citizen Schools’ Apprentice Projects</td>
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<td>24 schools in 4 states</td>
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<td><em>Afterschool projects with real-world teachers</em></td>
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<td>Urban Alliance Internship Program</td>
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<td>Schools in DC, N. VA, Baltimore &amp; Chicago</td>
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<td><em>Scaffolded year-long internships</em></td>
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<td>Da Vinci Schools’ Real-World Learning</td>
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<tr>
<td>Charter high schools in the Los Angeles area</td>
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<tr>
<td><em>Progression of real-world experiences</em></td>
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Each exemplar is further described below in the sections on each of the Essentials.
Looking at the importance of the 5 Essentials individually

**ESSENTIAL 1. Caring Friends & Adults**

“How ironic. We are the most technologically connected generation in human history — and yet more people feel more isolated than ever.”

— Thomas Friedman, *Thank You for Being Late*

Peers and caring friends play important roles during adolescence and into adulthood, contributing to positive psychological adjustment, better self-image, and better academic performance. Conversely: “The negative impact when young adolescents have difficulties in developing or maintaining friendships are aggressive behavior, low academic achievement, and experiencing loneliness and depression” as well as an increased risk for psychosocial difficulties during adulthood. Research summaries on caring friends from the National Institutes of Health and the American Psychological Association can be found here and here.

In this report, we focus on the role of caring adults. The Search Institute, Center for Promise, and Harvard’s Center on the Developing Child are among the many research groups studying and describing how “experiences delivered through caring, supportive [adult] relationships” empower young people “to leverage the power of educational, workforce, and civic opportunities.” Following are several highlights from our research scan on the role of adults:

- **Previous relationships** — positive or negative — influence how a young person perceives and responds to a new relationship. For caring support to take hold, adults must strive to understand how their interactions are being perceived, as the Center for Promise explains.

  The level of connectedness and trust in a relationship can affect how young people perceive the support that they are being offered, called Perceived Partner Responsiveness (PPR). PPR has been found to mediate the connection between the support someone offers and the effect that the support has on the potential recipient and his or her academic achievement, social and emotional well-being and physical health. That is, perceived social support has been found to be a more powerful predictor of positive outcomes than the objective provision of support. Therefore, understanding young people’s perceptions of available support is essential to designing interventions that work.

- **Researchers at the Center for Promise** conclude that “young people trust and come to rely on caring relationships they perceive as honest, truthful, unselfish, faithful, and consistent”:
Young people we interviewed offered insights into damaging past relationships with important individuals in their lives and described what they think good relationships entail. They often defined caring as “trust” and “honesty,” being “truthful,” not being “fake” or “talking behind [your] back,” not being “selfish,” inflicting “drama” or being hurtful…. For the young people we spoke with caring also involved feeling “connected” to a person and feeling a “connection” from them. They associated caring with stability, which they defined as “loyalty,” having a person spend time with them and be there “forever,” offer “consistency” and “commitment,” be “faithful” and not a source of “heartbreak” or a “cheat.”

Tom Friedman, in Thank You for Being Late, quotes a Talmudic saying: “What comes from the heart enters the heart.” He continues: “What doesn’t come from your heart will never enter someone else’s heart. It takes caring to ignite caring; it takes empathy to ignite empathy.”

- **A counselor with Café Momentum explains** that emotional support must come before appraisal support:

  They [young people] need to have a safe place and they need to know they can come in here with anything, they can have a breakdown. I’ve got to allow that to happen so that I can begin to get to the roots so that they can show up and feel like they have a family. Once you’ve got that foundation you can kind of layer it with restorative discipline.

- **A 2016 Search Institute survey** of more than 25,000 middle and high school students in a large, diverse city concluded that 4 in 10 students reported infrequent and inconsistent involvement in supportive developmental relationships. In addition, only 4 in 10 reported that teachers expressed caring. Another study of 8,000 middle school students found that “the number of supportive adults in students’ lives… had the strongest relationship to school engagement.” In an extraordinary study of students who dropped out of high school and later re-engaged, The Center for Promise found: “young people mention twice as many experiences of instability vs. stability in their non-familial relationships during descriptions of leaving school; and eight times as many experiences of stability vs. instability during periods of re-engagement.”

- **At least one stable, non-family anchor relationship is needed** to provide unconditional support and act as a gateway to a web of support, according to the Center for Promise: “The presence of a single trusted adult appears to be a necessary component of support, alongside or in conjunction with the web of support. Neither is effective alone…. Some young people may be standing in a room that contains all the support they need, but they need someone else to turn on the lights so they can see what’s there and reach for it.”
- **Stanton-Salazar, on the other hand**, quotes Gary Wehlage and his colleagues on the importance of [broader] *bonding* between the student and school personnel through which the student becomes “attached, committed, involved and has belief in the norms, activities and people of an institution.”77 Stanton-Salazar goes on to describe the “we-ness” to which most next generation schools aspire:

> When such bonding between agent and student becomes a defining characteristic of the school community as whole, students experience a certain “we-ness,” a collective identity that is highly consonant with increased effort, engagement, and academic achievement. In sum: school personnel treat students in a caring manner, creating the conditions for “bonding”; in turn, students come to identify with, and conform to, the established order; now integrated, students experience a heightened degree of motivation and make the necessary efforts to meet academic demands.78

- **At the college level**, this type of bonding with faculty represents “a particularly important form of social capital, especially for underrepresented college students.”79 Researcher Sarah Schwartz and her colleagues summarize supporting research:

> Supportive interactions with caring faculty and staff on campus have been identified as the “single most potent retention agent on campus” (Crockett, 1985, p. 245). A study of on-campus support among African American and Latino college students suggested that support from faculty was the most important type of social support in contributing to academic success (Baker, 2013). Other studies show that interactions with faculty both in and outside the classroom influence student engagement and academic achievement (Deil-Amen, 2011; Umbach & Wawrzynski, 2005). In some cases, connections with faculty and staff may evolve into mentoring relationships, which appear to be especially beneficial. In mentoring relationships, the connection moves beyond casual interaction to intentional support and advocacy. Research has shown that college mentoring can increase students' sense of social and academic integration, their grade point average (GPA), and their persistence and retention in college (Crisp & Cruz, 2009; Phinney, Torres Campos, Padilla Kallemeyn, & Kim, 2011).80

Two programs illustrate the power of caring adults. Our school-based example is **Self Enhancement, Inc.** in Portland, Oregon and the community-based example is **Erie Community College** in Buffalo, New York.
Painted on the floor as you enter the gymnasium at SEI are the words: “Life Has Options.” Those words are central to a long, sustained conversation with participating students in SEI’s intensive mentoring and wraparound services program. The vast majority of students live “in troubled single-parent families or with a guardian.” For more than two decades, 97% of these predominantly low-income students of color have graduated from high school on time; 85% have gone on to college. In contrast: Oregon’s graduation rate for white students was 76% in 2015. The year-around, multi-year program includes in-school and out-of-school academic support and tutoring, after-school programming, community service and events, peer support, college and career counseling, and family services from elementary school until students complete college or secure a sustainable job, “basically until students become adults.” SEI was recognized as one of the 18 highest performing youth organizations in the nation by the highly selective Edna McConnell Clark Foundation and lifted up by America’s Promise Alliance as a “model youth organization for raising graduation rates.”

With respect to the MyWays Developmental Framework for Social Capital, all three parts of the social capital tree are nurtured and all 5 Essentials are provided. That said, SEI’s secret sauce is their emphasis on Caring Friends & Adults. SEI counselors refer to themselves internally as “extra parents”; they are in daily dialogue with students, parents, and caregivers; concerns and suggestions are collected through Individual Success Plan sessions with students, regular parent meetings, and data shared and discussed with students and parents. No personal problem or challenge is out of bounds. Peer support is taught and celebrated. While most school-based programs promulgate standards closely tied to high academic expectations, SEI’s standards are laser-focused on a caring culture before all else:

- We greet each other every day with a smile and a handshake to strengthen the relationship between us.
- We honor and respect each other and so we address one another with proper language and speech.
- We value the space of ourselves and others and are careful not to intrude or injure each other.
- We are mindful of what is true and strive to be honest in word and deed.
- We treasure our rich culture and hold the cultures of all people in high regard.
- We strive to reflect our beauty both inwardly, in our understanding and outwardly in our appearance.

Erie Community College (ECC) has developed a remarkably effective Pathways to Success Program to reconnect disconnected youth and adults to education and employment. The Pathways program serves youth and adult learners who have left the traditional high school environment through five interconnected academic programs combined with intensive academic case management and close collaboration with community agencies, the
The judicial system, and employers. The mission is to increase the successful movement of students from basic education programs to college completion and well-paying employment.

ECC actively seeks out individuals with alcoholism, substance abuse, mental health disorders, and a wide range of other at-risk factors. By breaking down silos and partnering in a deep way with the courts, community agencies, social workers, and treatment professionals, the ECC program is able to combine supports; improve participants’ day-to-day functioning; and prevent their relapse back to drugs, alcohol, emotional decompensation, incarceration, hospitalization, and family neglect.

Like SEI, ECC focuses on all three parts of the social capital tree and all 5 Essentials. Its mentors, social workers, and case managers are a steady, caring presence in students’ lives, working to increase retention rates through academic assistance and guidance, serving as an essential link between the student and his/her goals by fostering a supportive developmental relationship with each student and guiding them through their educational journey to success. Fellow students are clustered to provide caring friend support while former students remain actively involved in the program as mentors to current students.

**ESSENTIAL 2. Near-Peers & Role Models**

“The fastest way to change yourself is to hang out with people who are already the way you want to be.”

— Reid Hoffman and Ben Casnocha, *The Start-Up of You*

If Caring Friends & Adults are humans’ oldest form of social capital, then Near-Peers & Role Models are surely the second oldest. Furthermore, Near-Peers & Role Models have a deep, ancient connection to human learning. Evolutionary biologist David Sloan Wilson makes the dramatic point that human tribes are as old as the human species itself: we have literally co-evolved with peers and role models in multi-aged groups from whom we learn and model ourselves and craft our self-efficacy. Furthermore, he notes that “mental and physical teamwork are the hallmark of human evolution.” Accordingly, denying older and younger peers to young people via age-graded education strikes many observers as a form of professional negligence — increasingly so in this age of accelerations when our ability to watch and learn from trailblazers is critically important. For all the reasons cited earlier in this report, we need to restore robust connections to Near-Peers & Roles Models. This Essential of social capital should be emphasized at the elementary, secondary, and postsecondary levels. Following are several research highlights on Near-Peers & Roles Models:
• “The developmental theorists Jean Piaget and Lev Vygotsky both assigned peers a prominent role in development.”\textsuperscript{85} Vygotsky proffered that learning takes place in a \textit{zone of proximal development} (from which the concept of scaffolding is derived) in which one or several \textit{more knowledgeable other(s)} can be observed, imitated, or modeled in order to acquire some new knowledge or skill. While the teaching profession typically thinks of the teacher as the more knowledgeable other, Vygotsky emphasized the social aspects of learning and believed that “slightly advanced peers [also] serve as important leaders of development.”\textsuperscript{86}

• \textbf{Young children in Montessori classrooms} (typically mixed-age groups of three age levels) quickly learn to discern which classmates, regardless of age, are the best “more knowledgeable others” on a wide variety of academic, social, and practical life skills. For example, during a visit to a public Montessori classroom in Cambridge, Massachusetts, the authors observed a substitute teacher ask a lower elementary class of 6- to 8-year-olds if they could tell her the activity schedule for the day. In unison, every head in the class turned to a shy, Korean-born 7-year-old girl who was recognized as the schedule savant of the class. Acquiring the ability to identify which peers and role models are “experts” in myriad specialty areas is a valuable social capital skill — not only for children, but for adults as well.

• \textbf{Adolescent development experts} like Robert Halpern and Reed Larson note that \textit{Near-Peers & Role Models} in adolescence are incredibly important to forging one’s identity and beginning to learn about vocational possibilities. Halpern warns that when adolescents have too few older \textit{Near-Peers & Role Models} in their lives, a “peer world” bubble might develop that can detour and delay adolescents from their natural exploration and entry into the adult world.\textsuperscript{87}

• \textbf{On the other hand}, internships and other forms of work-based and community-based learning can enrich and inspire a young person. The power of near-peers, in particular, is a prominent theme in the field of positive youth development. Report 5 has additional information and sources; one place to begin is Halpern’s report for the Nellie Mae Education Foundation, \textit{It Takes a Whole Society: Opening Up the Learning Landscape in the High School Years}.

• \textbf{Young people can find role models in any and every domain, including} among close acquaintances and more remote contemporaries, and in entertainment, sports, or a profession of interest. Figures from history and even fiction can be role models. Creativity consultant Michael Vance, former head of Disney University, urges young people to create their own Hall of Fame of inspiring role models. While anyone can be a role model, regardless of age, gender, or race,
students of color may be particularly aided by role models — and near-peers — who “look like me” and have traveled, successfully, the same journey. These students may also face the challenge that cultural identity and the need for code-switching often complicate the “uptake” of Near-Peers & Role Models.

- **In a complex age of accelerations**, change can happen so fast that the very best form of social capital is the trailblazers who are proceeding just ahead of you — those Near-Peers & Role Models who are just a bit further into the work/learn landscape, the career field you’re considering, the world of independent living, or the first serious relationship. Helping young people identify these trailblazers, approach those who are accessible, and learn from them is part of building social capital.

The following two programs illustrate the power of Near-Peers & Role Models. Our school-based example is the extracurricular programs present in most high schools, while the community-based example is Harlem Children’s Zone.

<table>
<thead>
<tr>
<th>Extracurricular Activities</th>
<th>School-based example for Near-Peers &amp; Role Models</th>
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<tr>
<td><strong>When we ask educators to recall what high school learning experience had the most impact on their own personal development, responses focus almost universally on extracurriculars: dance, theater, sports, newspapers, and so forth. Harvard’s Jal Mehta has written an insightful blog, “Schools Already Have Good Learning, Just Not Where You Think,” in which he examines nine ways that extracurriculars can provide rich learning. Our interest here is in Mehta’s comments on the benefits of Near-Peers &amp; Role Models in these activities [he uses theater as an example]:</strong></td>
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<td><strong>Unlike age-graded school, productions feature students at different ages and at very different levels of knowledge and skill. This gave younger learners an opportunity to learn from their peers, to apprentice with slightly older students who knew how to do what they wanted to learn. In lighting, set design, and stage managing, there was often a senior as the lead, a junior as an assistant, and a freshman or sophomore as something like an intern. Students described that they had gradually taken on more responsibility over the years as they developed increasing competence. Younger students also looked up to older ones; they provided models of who they wanted to be in the future. Adults involved in the theater program extended this notion of apprenticeship, providing greater levels of expertise, and sometimes connecting students to professional work in college, community, or regional theaters.”</strong></td>
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<td><strong>Amas Musical Theatre, NYC</strong></td>
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We talk more about the importance of extracurriculars and their proximity to authentic, real-world learning in Report 11.
HCZ has been heralded for changing the paradigm for education in troubled low-income communities, pioneering the cradle-to-career pipeline approach of integrated academic, youth, family advocacy, and wraparound programs now emulated by the StriveTogether Network, the federal Promise Neighborhoods Program, and other local initiatives across the country. Like many of our other social capital examples, HCZ works to build all 5 Essentials. However, in our view, they are unparalleled in their approach to Near-Peers & Role Models. Serving more than 25,000 children and families, HCZ fields 1,200 trained staff — 1,200 Near-Peers & Role Models. Most are from Harlem and a great many have come up through the ranks of the HCZ organization, perhaps starting as a student-participant, then a junior counselor, senior counselor, tutor, site coordinator, program manager, and program director. Every staffer is committed to each child’s success — “Whatever It Takes,” is the mantra — and every staffer is a walking, talking, inspiring example of what is possible.

**ESSENTIAL 3. Mentors & Coaches**

“I was angry at myself. I had underestimated the test.”

—TaTy’Terria Gary

TaTy’Terria Gary is a working-class senior at Topeka High School in Kansas. Lacking a proper mentor, this conscientious, engaged-in-many-activities, aspiring gynecologist was seeing her dreams turning to dust for the lack of someone helping ensure she was ready for her college admission test. In a gripping portrait
of Gary and two other working-class high schoolers, Anemona Hartocollis writes in The New York Times of the struggle with the college admission process that many working-class students face and the, frankly, stupid little mishaps that knock all too many off track, sometimes permanently. Gary was one of the lucky ones; a private college counselor read about her in a previous Hartocollis article and stepped forward to mentor her and help her get back on track.  

Mentors and coaches are not all about college admissions; they come in many formal and informal forms. They are a cornerstone of youth development best practice and play a crucial role, in particular, in helping adolescents learn the Wayfinding Abilities needed to transition through secondary school challenges and navigate the work/learn landscape. Following are several highlights from our research on Mentors & Coaches:

- **Stanton-Salazar reports** that adolescents most in need of mentoring and coaching, particularly those of work-class backgrounds, are the least likely to have access to this Essential of social capital:

  Most working-class youth experience difficulty in establishing resource-ful relationships with non-parental adult figures. In contrast, in middle-class families, both parents and adolescents themselves coordinate to incorporate non-parental adult figures into their social networks.

- **This mentoring/coaching gap extends into the college years**, according to Schwartz and her colleagues:

  Although the value of social capital, including both mentoring relationships and lower intensity support, is well documented, data suggest that first-generation, low-income, and racial/ethnic minority college students are less likely to develop such relationships, especially with institutional agents whose support may be particularly valuable. In fact, difficulty developing meaningful on-campus connections has emerged as a key explanation for low rates of degree completion among racial and ethnic minority students.

- **To address this deficit**, Schwartz and Rhodes trace new trends within the field of youth mentoring in *From Treatment to Empowerment: New Approaches to Youth Mentoring*:

  Traditional approaches to formal youth mentoring have focused primarily on improving the lives of "at-risk" youth through the assignment of individual mentors who are typically disconnected from youth's communities. Similarly, research in the field of formal mentoring has emphasized the dyadic relationship between the mentor and the mentee, with less attention paid to the broader relational contexts in which such relationships unfold. The current paper
proposes a new framework that expands the scope of mentoring interventions to include **approaches that build on and cultivate informal supports and empower youth to identify and reach out to networks of potential supportive adults**, thus increasing the reach of youth mentoring.\(^92\)

- **Taking this work one step further**, Schwartz, Rhodes, and other colleagues, in the wonderfully titled *"I Didn't Know You Could Just Ask,"* describe their design for the Connected Scholars Program, an eight-session course “empowering underrepresented college-bound students to recruit academic and career mentors.”\(^93\) For next generation schools that do not yet provide training on building social capital, we recommend investigating this program. The course scope and sequence are enclosed as an exhibit at the end of this report.

Our two example programs for Mentors & Coaches expand the scope of the topic. Our school-based example is the Citizen Schools apprenticeship program taught by citizen coaches. The community-based example is Mobility Mentoring, a national program of Boston’s Economic Mobility Pathways (EMPath).

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<th>Citizen Schools’ Apprentice Projects</th>
<th>School-based example for Mentors &amp; Coaches</th>
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<td>Founded in 1994, Citizens Schools’ mission is creating life-changing aspiration in low-income middle-schoolers. &quot;I got the sense that, while they didn’t drop out until 10th or 11th grade,&quot; says co-founder Eric Schwarz, &quot;they tuned out in middle school. It’s a time where kids get a sense of themselves in the future.&quot; Citizens Schools partners with schools to offer an expanded learning time afterschool program within which apprentice projects are a core component. Middle schoolers work with near-peer mentors/coordinators and community volunteers, called Citizen Teachers, from businesses and civic institutions. Students are out in the community, often in the workplace of Citizen Teachers. &quot;Taught in 90-minute sessions twice a week for 11-weeks, the apprentice projects emphasize skills considered necessary for success in the modern economy: leadership, teamwork, oral communication, and technology. Each semester’s apprentice projects culminate in a product, performance, or presentation produced by the students and taught back to the [school and parent] community at an event called a WOW!&quot; (See this 5m video and Forbes article for more information.)</td>
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Financial adviser Suze Orman says, “Today as I sit here, there is a highway into poverty; there is not even a sidewalk anymore to get out.” One program that stands out for its success in achieving economic mobility is Mobility Mentoring, refined over many years by EMPath, formerly the Crittenton Women’s Union. While program participants are low-income adults and families, EMPath’s Bridge to Self-Sufficiency framework (see graphic below) is as relevant for younger students as it is for adults. It is a competency development model that builds off participants’ real-life challenges in five domains: family stability, well-being, financial management, education and training, and employment and career management. A setback in any one of these elements is enough to “break the bridge” and inhibit the slow, deliberate progression toward economic mobility. This is exactly the case for most low-income students as well: the aspiration to succeed in college is easily thwarted by a host of family, personal, financial, academic, or work difficulties. (A full-page graphic of the Bridge to Self-Sufficiency Framework is provided as an exhibit at the end of the report.)

From a mentoring standpoint, the program has several characteristics noteworthy for their potential applicability to students attempting to navigate the work/learn landscape. One strength of the program (and framework) is the emphasis on building resilience by making potential breakdowns transparent and developing strategies for anticipating and adapting to crisis without being deep-sixed. In addition, mentoring needs to be available in all five domains, because specialized mentoring in narrow areas — such as college admissions — will not alone make the difference for students living challenging and complex lives.

With coaching and support, participants develop the competencies to cross the bridge to self-sufficiency: learning to make decisions, not in isolation, but in the context of their overall economic mobility plan. In addition, emphasis is given to thinking about the future — that is, to applying one’s competencies to goal setting and considering the implications of current decisions and actions on events and opportunities down the road. In educational terms, these training priorities are targeting transfer of learning, improving the ability of participants to apply what they are learning in the classroom, support group, or workplace to problem solving in their own lives and to their own self-sufficiency plans.

Mobility Mentoring and the five domains in the Bridge to Self-Sufficiency framework are applicable to adolescents setting out to navigate the work/learn landscape, especially low-income students and students of color. Typically, we are asking these adolescents — 16- to 18-year-olds! — to design and build their own bridge to self-sufficiency with little assistance and “in an information-poor, time-compressed, resource-constrained environment,” as Hoffman and Casnocha noted earlier. As Pathways to Prosperity observes, “it is a minor miracle that so many still manage to complete a degree.”95
ESSENTIAL 4. Networks & Weak Ties

“It was like, ‘Why would they want to keep in touch with me? What would I even ask them — How is it going? Did I make enough of an impact on them for me to ask them how their life is?’ I was like ‘eh.’ I was just another kid in the program so I just didn’t think about doing it... I guess after that I was like there’s no point; I’m pretty sure they don’t care about how my life is. I guess that’s a pessimist way of thinking about it.”

— “Cerebral,” age 18, Hive NYC program participant

What teenager hasn’t thought like Cerebral? Network membership and adult weak ties (the acquaintances of friends) are frequently alien and scary concepts to young people of all backgrounds. Billett emphasizes that adolescents are developmentally more attuned to bonding relationships than the bridging relationships in networks and weak ties. Nevertheless, a network orientation and help-seeking orientation are incredibly important characteristics for any young person to cultivate.97 Building on our brief introduction to Networks & Weak Ties in Report 3, Decision 5, including the foundational work of sociologist Mark Granovetter, we offer the following additional highlights from our research on Networks & Weak Ties:

● The previously mentioned white paper by the Hive Research Lab probes the challenges of social capital and young people, concluding that “if we want to help youth develop more social capital... we need to develop more sensitivity” to adolescents’ hesitation and its causes:

For example, Stanton-Salazar’s (2001) work with Latino and Latino-American youth has traced how contextual factors in their lives can lead to mistrust and wariness that over time may cause some youth to adopt a posture of “unsponsored self-reliance” that manifests in avoidance strategies among youth when it comes to interacting with certain adults (such as teachers, who could potentially provide aid). Stanton-Salazar also points out that while this trait may be celebrated as a core American value, sociologists have indicated that people who claim to have “made it on their own” generally were “deeply embedded in resource-rich networks and relationships (Fischer, 1982; Warren, 1981)” (Stanton-Salazar, 2001, p. 112).98

● It is useful to think of business, community, and other social networks as additional examples of the multiple sociocultural worlds we discussed earlier in this report. Each network has its own system “of values and belief, expectations, aspirations, ways of using language, and emotional responses familiar to insiders.”99 And, like other relationships, weak ties require trust and reciprocity, the rules for which are rarely apparent to young people short on adult network experience.
Hive summarizes Stanton-Salazar’s work comparing “middle-class networks” versus “working-class networks”:

“We also know that different socioeconomic groups have varied supportive capacity within their social networks. Stanton-Salazar (2001) describes middle-class individuals as having ‘cosmopolitan networks’ reflecting connections to individuals that make possible “smooth access to the mainstream marketplace where privileges, institutional resources, opportunities for leisure, recreation, career mobility, and political empowerment are abundant” (p. 105). So called “working-class networks,” by contrast, are likely to be more ‘bounded,’ i.e., smaller, more homogeneous, tightly knit, turf-bound, and therefore limited in terms of their potential to help an individual engage in mainstream institutional spheres.”

Other research reveals that both middle-class and working-class youth utilize their peers for support and sharing information; however, middle-class youth benefit from a multiplier effect: since their networks are more robust, there are “striking differences in the kinds of support” they are able to exchange in contrast to working-class youth. “Taken to its extreme,” Stanton-Salazar (2001) warns us that social networks can function as both “support system” and “social prisons.”

Honing in on their mission to broker learning opportunities for New York City youth, Hive’s paper is very helpful in its discussion of the issues and principles involved in building social networks that foster youth-adult connection and provide “ladders of opportunities.”

One feel-good story of network orientation and help-seeking orientation is that of NFL receiver Malcolm Mitchell (5m video). A football star at the University of Georgia, Mitchell entered college reading at a middle school level, an achievement gap he was determined to overcome. Visiting Barnes & Noble one day with a friend, he asked a white, middle-aged, female customer for suggestions. During the ensuing conversation, he learned that she was a member of a book club and immediately asked if he could join, despite learning that club members were all women older than his mother. The bonds that Mitchell forged in that group are a triumph of network power. Mitchell now reads everything in sight and uses his NFL stardom to encourage kids to read.

Our two example programs for Networks & Weak Ties expand the topic’s scope. Our school-based example is the Urban Alliance Internship Program, while the community-based example is the Earlham College Alumni Mapping program.
Urban Alliance Internship Program

Urban Alliance (UA) provides scaffolded year-long internships to low-income high school seniors in Washington, DC, Northern Virginia, Baltimore, and Chicago. (Detailed profiles of the program, along with three other youth development programs, can be found in the Center for Promise’s excellent report, *Relationships Come First.*) Preparation and support before, during, and after an internship is essential to its success and UA builds a web of support that turns a one-year internship into a life-long social capital advantage — by **showing students how to develop and utilize weak-tie relationships** at the periphery of their internships as well as getting the most from colleagues they’re working with each day. Upon acceptance, “students undergo an intensive five-week training program (their ‘professional development boot camp’) for *career management skill* building and *life skill* building.” Students are matched with internships that closely match their interests, and the web of support is in place throughout the year:

> [W]e are basically trying to ensure that they are developing the whole time, and then we jump in when things do get rough. Many of our interns — they’re not just dealing with going to school and going to work where there are so many other things outside of that...maybe situations at home, or just simple things like getting back and forth to work as far as transportation. So as program coordinators, we are usually that person that jumps in and provides maybe a [transit pass] or just talking on the phone to advise them..."

With an eye on the long-term, UA has an alumni outreach component that organizes professional development, mixers, community service, and networking opportunities for the current cohort of interns and UA alums — always with the goal of building the social capital web of support and connections that low-income students living in “relationship poverty” need for college and career success.

Earlham College Alumni Mapping

A 1,200-student liberal arts college in Richmond, Indiana, Earlham is turning its small size into a competitive advantage by mining the social capital in its alumni community for the benefit of current undergraduates. The *interactive graphics on the Earlham website* illustrate the first part of the initiative: the creation of an alumni database that tracks undergraduate majors (the left hemisphere) and career paths (the right hemisphere). The width of the lines connecting the two hemispheres (first graphic) show how many alums majored in each field and their divergence into various career paths after graduation. For example, the two smaller graphics to the right of that graphic show the divergence of English majors into 15 different career sectors (top) and the number of alums working in the health field who began in various academic majors (bottom).
The second part of the Earlhamite Career Pathways program enables undergrads to engage with alums to explore their career paths and seek information or assistance in the next phase of their work/learn journey. Earlham’s program could easily be emulated at the high school level.

**ESSENTIAL 5. Resources & Connectors**

After participating in a Hive NYC video game design program, Cerebral (introduced earlier) noted the following:

“When I first came, I was a little quiet because I didn’t know what was going on, but when Duncan started talking about games, I just wanted to talk. He looked at me and noticed that I was really interested in this and I think he just saw that I really liked it and he just talked to me about it. At first he was like, ‘I see you’re really interested in this stuff. Keep it up.’ Then towards the end of the program when he saw the game he was like, ‘If you need help and this is really what you want to do, here’s my card.’ It had his email on it and his office number and I called him at his office and he gave me a list of all the types of programs and stuff that I could go to and learn... I thought it was weird that he seemed to have some sort of faith in me. He seemed to
believe that I could do it and I didn’t really believe I could do it. I never thought of game design as a career. I just thought of it as games. I like to learn about games. And then I also felt like it was kind of real that it was something I could pursue.”

Hive NYC’s program created the social network and support that enabled Cerebral to develop from the doubting newbie (“Why would they want to keep in touch with me?”) into a young adult getting positive encouragement and potential resource assistance for a career in game design. Just as Networks & Weak Ties require systems designed to help young people develop a network orientation and help-seeking orientation, Resources & Connectors requires us to design the systems and supports so we can broker and connect young people to potential resources embedded in social networks. At the same time, we must help young people understand the dance of trust and reciprocity inherent in tapping relationships for resources while, hopefully, strengthening those relationships simultaneously — a delicate social skill that is challenging for many adults as well.

Following are several highlights from our research on Resources & Connectors:

- **We use the word “Connectors” because it is familiar** across age and educational levels. Hive uses the terms “brokers” and “bridges,” which emphasize the ability of “individual actors in one [network] to have access to resources embedded in nodes in another [network] that otherwise would not be accessible.” Hive believes that building the capacity into social capital systems to broker and bridge on behalf of young people is a critical and unsolved design challenge. The graphic to the right shows Hive’s brokering subsystem, where “Learning Opportunities” represents any resource type.

- **A “resource-ful” network** complete with brokers and bridges (“Connectors”) is a variation of Vygotsky’s zone of proximal development. Young people are more empowered to learn and advance toward their goals when the environment is populated by “more connected others” who can help bridge to resources that would otherwise be unavailable. A traditional high school or college is less apt to perform in this way compared to a more “porous” organization that redefines “partnership” as a core design element, as Michelle Cahill urged earlier in this report. (See the discussion of the Wider Learning Ecosystem in Report 11.)

- **The world of business** is loaded with books and programs promoting social capital and how to cultivate it for resources. Few of these writings have been adapted for student use; however, Wendy Murphy at Babson College and Kathy Kram at Boston University School of Management have tried to organize the business literature and research in *Strategic Relationships at Work*, a guide for undergraduates and college graduates. Although, in our judgment, the book is not suitable for high school students or students of color dealing with more complex connection and bridging issues, but it might be a worthwhile resource for next generation system and program developers.
● **Despite the lessons learned in the business world**, youth social capital researcher Billett warns that “until young people finished school and began looking for ‘career-based’ employment, they seemed to have little [interest] in the bridging ties that assist adults to create upward mobility.” In other words, young people — especially those lacking the connector-relationships that can come from affluent environments — are starting their connection building essentially from scratch.

● **On the other hand**, some of this indifference is the product of fear, shyness, and a lack of scaffolding. According to Schwartz and her colleagues, upon completing the Connected Scholars Program, one student reported, “I know ways to talk to somebody and trying to get some information, help, support, asking for something, it’s easier for me now, to get the connection that I need to.” Another student noted, “I didn’t know you can just ask a person if they know someone that kind of related to something you want to do.” One of the great student quotes on social capital!

● **Finally, we close this section** on Resources & Connectors by mentioning, all too briefly, the second enormous universe of social capital: online web- and app-based resources. From a social capital standpoint, these online and mobile assets can be divided into static and dynamic resources, differentiated by whether resources are available either without asking or after reaching out through social relationships. Potent examples of static resources are Khan Academy, YouTube, or LifeHacker, where the knowledge, skills, and advice of millions of “more knowledge others” are readily available. Need resources for learning algebra, Indian cooking, or how to drywall like a pro? Experts have shared their secrets on video. Dynamic resources — those reached through social interaction — can be pursued directly via email or by posting requests to forum communities like Quora and Reddit or to personal or professional networks through Facebook, Linkedin, or other forms of social media. Mastering this second (digital) universe of social capital adds another crucial dimension to building social capital.

Our two example programs for Resources & Connectors are the school-based example of the Real-World Learning program at the Da Vinci Schools in California and the community-based example of Hive NYC’s Learning Opportunities Network.
“We finally got a meeting with Mike; he is so busy, but so amazing! We are going to ask him if he is open to being a mentor to us.” So explained two student interns at one of Da Vinci’s many employer-partners, excusing themselves from a check-in with a coordinator of the Real-World Learning (RWL) Program. “I couldn’t have been happier to be ditched,” reported the coordinator, recognizing that the students had internalized RWL practices and were seeking this new connection on their own.

Starting in the ninth grade, Da Vinci students begin collaborating with industry professionals through a rich variety of learning experiences designed to help students seek and secure the social capital and resources they will need to succeed in the work/learn landscape:

Da Vinci Communications, Da Vinci Design, and Da Vinci Science are public charter high schools that pair rigorous classroom instruction with practical real-world learning experiences so students graduate college-ready, career-prepared, and community-minded. The Real-World Learning Program provides students with the skills needed in the workplace that cannot be taught within the core academic curriculum. This is done through on and off-campus learning experiences as well as career training on campus via a network of industry and community partners. The goal of the Real-World Learning Program is to bridge the gap between the classroom and the workplace.

The RWL program begins with industry-connected project-based learning, industry speakers, field trips, mentors, mock interviews, community service, and career skill development (including emailing, resume writing, LinkedIn, and other forms of personal networking). Juniors and seniors are encouraged to go deeper with optional work experience and internships. Graduates can elect a 13th “Extension” year with university transfer for students who wish to stay at Da Vinci an extra year beyond 12th grade to complete their freshman general education college coursework while gaining on-the-job work experience through paid and unpaid internships in the community — all at no cost to families.

A “porous organization” partnering with dozens of employer-partners, Da Vinci’s RWL program deliberately pulls the work/learn landscape forward into the high school years, giving students authentic opportunities to experience the workplace, build relationships and social capital, and seek the connections and resources they will need in the next stage of their work/learn journey.

The Mozilla Hive NYC Learning Network (“Hive NYC”) is a consortium of more than 70 museums, libraries, and youth-serving organizations collaborating on a “network for learning” for city youth. The program leverages social capital as a central driver of their learning pathway:

- They create a rich, flexible social environment by connecting the personal social networks of well-placed individuals at participating organizations, and encouraging young people to use this social fabric to develop their own relationships and networks.
● They rely on the relationships among adult participants to identify or develop work/learn opportunities in the community.

● They foster strong adult-youth relationships to develop knowledge of each young person, including their interests, abilities, and aspirations, and to broker connections between these young people and matching work/learn opportunities.

The graphic below summarizes how Hive NYC envisions the “relationship building” and “brokering” system at the core of a 70-organization collaboration that first generates durable youth-educator relationships that lead to youth social capital building, increased youth social capital, and valued youth outcomes:

Hive NYC’s deliberate focus on emotional and instrumental support is especially important for students in poorer communities:

Hive members’ programs are often structured in ways that allow youth and educators to get to know each other through unstructured time, hanging out, and project work. These hanging out periods are important so that educators can get to know — and develop — youth’s passions and interests. We have observed trust and norms naturally emerge in these contexts as youth develop skills, get feedback from others, and find inspiration in conversations with fellow peers and adults. Furthermore, interactions that have happened over the course of a program, with guest speakers, teaching artists and individuals encountered on field trips, have made visible to youth more opportunities and resources that may be accessed down the road.

Hive NYC is an evolving initiative and, as previously mentioned, the Hive Research Lab has documented its ongoing efforts to apply social capital in smart, effective ways in a white paper.
Key social capital takeaways for next generation educators

Although social capital is receiving growing attention within society as a whole, its importance to young people during childhood and their transition to adulthood is only beginning to be recognized. Furthermore, while new ways to promote social capital are needed for young people of all classes and racial/ethnic backgrounds, the research makes plain that the “relationship poverty” of many low-income students and students of color is a significant and limiting factor in the expanding opportunity gap in postsecondary degree attainment and gainful employment. To help address this, we have developed the MyWays Developmental Framework for Social Capital, which includes the 5 Essentials we described earlier in this report (and that are recapped in the sidebar on the right).

How can next generation educators take this research and integrate social capital more fully into their school design models and programs? Following are five takeaways from the research.

**Takeaway 1:** Social capital is an outgrowth of each person’s developmental trajectory and life circumstances, influenced by both opportunity and preparation. The social connections through which resources are attained are like the branches of a social capital tree, dependent on the quality of the roots of social support as well as the trunk of supportive developmental relationships with adults, including nonfamilial adults. Accordingly, the urgency to build social capital in young people must begin with improving the webs of support and healthy development of all young people.

**Takeaway 2:** Next generation education can promote social capital development as an extension of two existing next generation focus areas: social-emotional learning and real-world learning. These initiatives provide solid platforms for developing network orientation, help-seeking orientation, and personal social
connections. However, more work is needed to identify and develop curricula and learning experiences that translate materials and programs developed for the adult business world into forms appropriate for young people, especially those in marginalized groups.

**Takeaway 3:** There is an urgent need for schools to become *porous organizations*, as urged by Cahill, and to promote and spearhead the development of various forms of work/learn pathways that extend beyond the school walls and assist young people in building their social capital. As we described above, Citizen Schools’ Apprentice Projects Program, the Urban Alliance internship program, and Hive NYC’s learning opportunity network offer examples of collective impact that integrate the programs and resources of multiple organizations into ladders of opportunity rich in social capital.

**Takeaway 4:** Building social capital is doubly difficult for marginalized young people. Starting off in relationship poverty and experiencing inadequate social support and negative developmental relationships compound the growing economic, geographic, and cultural chasms documented by Putnam to block entry and participation in the multiple sociocultural worlds needed to succeed in college and career. These young people need explicit bridges and brokers if they are to overcome these barriers and achieve better social capital outcomes.

**Takeaway 5:** We need to develop ways to measure and assess the social capital of young people if we are to build rigorous and effective social capital systems. As a starting point, Billett has developed *Indicators of Youth Social Capital*, a set of 11 primary and secondary indicators. A desirable next step would be to build on her work to develop indicators and measures that align with the MyWays Developmental Framework for Social Capital.

**What the 5-5-5 Realities mean for adolescence**

Reports 2, 3, and 4 explore accelerations in the nature of the labor market, the work of postsecondary education and early employment, and societal patterns of social capital — accelerations we describe as the 5-5-5 Realities.

In Report 5, *Preparing Apprentice-Adults for Life after High School*, we examine the state of adolescence in America today and how poorly prepared many young people are to face these realities. To “prepare youth to thrive,” we discuss opportunities to capitalize on the natural developmental potential of the adolescent years.
Exhibit A. Connected Scholars Program — Scope & Sequence

<table>
<thead>
<tr>
<th>Session #</th>
<th>Essential questions</th>
<th>Activities</th>
<th>Assignment/practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1: What is a mentor and how can mentors help me?</td>
<td>What is social capital? What are different forms of social capital (e.g., mentors, advisors)? How can social capital help me achieve my goals?</td>
<td>Introduce workshop goals/review syllabus. Chalk talk: Characteristics of a mentor. Discussion: What is social capital and social support? When have you drawn on social capital in the past? How might you use it in the future?</td>
<td>Write a reflection on how mentors, social support, and social capital can help you achieve your academic and career goals.</td>
</tr>
<tr>
<td>Session 2: Who are the adults in my life?</td>
<td>Who are the adults in my life and what types of support can they provide?</td>
<td>Complete individual eco-map (graphical representation of relationships, including strong ties and weak ties). Discussion: How to identify someone to interview. Brainstorm: Interview questions for college interview. Role-play: How to ask whether someone would be willing to do an interview with you and set up a meeting.</td>
<td>Interview someone from your existing social network who went to college or is currently in college about mentors in their own lives as well as their college experience and their advice for you in your first year in college.</td>
</tr>
<tr>
<td>Session 3: How can I grow my social network?</td>
<td>What is networking and how do you do it? How can I identify and reach out to potential mentors?</td>
<td>Debrief interview assignment. Complete networking flow chart to identify potential sources of academic and career center or faculty/staff. Share templates for writing professional emails and writing emails to professors. Practice: Writing professional emails to set up a meeting. Discussion: What to do (and how to manage feelings of rejection) if someone refuses. Brainstorm: What are your goals for this interview? What do you hope to get out of it? Brainstorm interview questions based on goals. Discussion: What might be the way of asking for support or guidance in college when we need it? Role-play: Asking for support or guidance.</td>
<td>Use networking skills to identify individuals in a chosen career or academic interest area and set up an interview time.</td>
</tr>
<tr>
<td>Session 4: How can I use mentoring relationships to support me?</td>
<td>How do I maintain mentoring relationships? How can I make a good first impression? How can I use mentoring relationships to support me? How do I ask for support or guidance?</td>
<td>Debrief on networking assignment. Discussion: How to make a good first impression? What is professionalism (discuss cultural considerations)? How can I prepare for a professional meeting? Brainstorm: What are your goals for this interview? What do you hope to get out of it? Brainstorm interview questions based on goals. Discussion: What might be the way of asking for support or guidance in college when we need it? Role-play: Asking for support or guidance.</td>
<td>Interview an individual in your identified career or academic interest area.</td>
</tr>
<tr>
<td>Session 5: How is social capital influenced by power and privilege?</td>
<td>How is social capital influenced by power and privilege? What is code-switching? What do I do if I have a conflict with a mentor?</td>
<td>Discuss thank you/following up strategies (share thank you email template). Discussion: How might social capital be influenced by power, privilege, and prejudice? Share example of code-switching.</td>
<td>Write a reflection on a time you had a conflict with an adult in an authority role (other than parents or guardians) and how you addressed it (or, if you did not, why not).</td>
</tr>
<tr>
<td>Session 6: How can I connect with mentors next year?</td>
<td>Why are mentors and other types of social capital important in college? Where can I find contexts to connect with mentors on campus? How can I develop relationships with faculty and staff in college?</td>
<td>Discussion: Why is social support and social capital, especially mentoring relationships with faculty and staff, important in college? Brainstorm: What are contexts on campus (e.g., clubs, services, office hours etc.) where I can connect with mentors? Discussion: How can I connect with professors and university staff? Role-play: Attending office hours.</td>
<td>Go to mock office hours and meet with the professor.</td>
</tr>
<tr>
<td>Session 7: Who can support me during the transition to college (from home and on campus)?</td>
<td>How can I maintain relationships with supportive adults and mentors from my home/high school network? How can I develop new supports on campus? How can I introduce myself when networking?</td>
<td>Activity: Create college social support map, including supports from home and potential social supports on campus (include who you can go to for different types of support). Discussion: Identify (at least) one person to support you during transition to college. Consider the types of support you want from this person, the parameters you want to establish for the relationship, including frequency and type of contact (e.g., email, text, phone, in person). Role-play: Introducing oneself, including interests/goals, when networking. Mix and mingle: Practice making small talk in professional settings. Speed networking: Structured 5 min conversations in which student practice introducing themselves and asking about academic and career paths.</td>
<td>Ask an adult from your existing social network to support you in the transition to college (and how you can reach out to them).</td>
</tr>
<tr>
<td>Session 8: Networking night</td>
<td>How do I put what I’ve learned into action? How can I start building my network of university and professional contacts?</td>
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</tbody>
</table>

Exhibit B. Mobility Mentoring’s Bridge to Self-Sufficiency Framework

**Bridge to Self-Sufficiency**

<table>
<thead>
<tr>
<th>FAMILY STABILITY</th>
<th>WELL-BEING</th>
<th>FINANCIAL MANAGEMENT</th>
<th>EDUCATION &amp; TRAINING</th>
<th>EMPLOYMENT &amp; CAREER MANAGEMENT</th>
<th>Earnings Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Family</td>
<td>Physical and Mental Health</td>
<td>Networks</td>
<td>Debts</td>
<td>Savings</td>
</tr>
<tr>
<td>No subsidy, housing costs ≤ 1/3 household gross pay</td>
<td>Fully able to engage in work, school, and family life, children or family needs don’t get in the way (OR) No children or dependent family members</td>
<td>Fully able to engage in work, school, and family life, health and mental health needs don’t get in the way</td>
<td>Can always rely on networks to provide useful advice, guidance, and support</td>
<td>No debt other than mortgage, education, and/or car loans; and current in all debts</td>
<td>Savings of 3 months’ expenses or more</td>
</tr>
<tr>
<td>No subsidy, housing costs exceed 1/3 household gross pay</td>
<td>Mostly able to engage in work, school, and family life; children or family needs mildly get in the way</td>
<td>Mostly able to engage in work, school, and family life; health and mental health needs mildly get in the way</td>
<td>Can often rely on networks to provide useful advice, guidance, and support</td>
<td>Current in all debts and making more than minimum payments on one or more debts</td>
<td>Savings of more than 2 months’ expenses, but less than 3 months’ expenses</td>
</tr>
<tr>
<td>Subsidized Housing – pays $100+ towards rent</td>
<td>Somewhat able to engage in work, school, and family life because of children or family needs</td>
<td>Somewhat able to engage in work, school, and family life because of health or mental health needs</td>
<td>Can sometimes rely on networks to provide useful advice, guidance, and support</td>
<td>Making minimum payments on all debts</td>
<td>Savings of at least one month’s end up to 2 months’ expenses</td>
</tr>
<tr>
<td>Subsidized Housing – pays ≤ $999 towards rent</td>
<td>Barely able to engage in work, school, and family life because of children or family needs</td>
<td>Barely able to engage in work, school, and family life because of health or mental health needs</td>
<td>Can rarely rely on networks to provide useful advice, guidance, and support</td>
<td>Behind in payments of one or more debts and making payments on at least one debt</td>
<td>Savings of less than one month’s expenses</td>
</tr>
<tr>
<td>Not permanently housed</td>
<td>Not able to engage in work, school, and family life because of health or mental health needs</td>
<td>Not able to engage in work, school, and family life because of health or mental health needs</td>
<td>Can never rely on networks to provide useful advice, guidance, and support</td>
<td>Has debts; currently not making any payments</td>
<td>No savings</td>
</tr>
</tbody>
</table>

*Calculated based on 1 adult, 2 children in Suffolk County, MA. See MIT’s Living Wage for further information: www.livingwage.org.

For more information, please visit www.empathways.org.
Endnotes for Report 4


5 We defined these five social capital types after studying the social capital literature.


7 Ibid., p. 8.

8 Ibid., p. 19.

9 Ibid., p. 31.

10 Ibid., p. 35.

11 Ibid., pp. 37–38.

12 Ibid., p. 44; the inside quote is from sociologist Douglas Massey.

13 Ibid., p. 39.

14 Ibid., p. 38; Figure 1.4 is based on Census Bureau data analyzed by Kendra Bischoff and Sean F. Reardon, “Residential Segregation by Income, 1970–2009,” in *Diversity and Disparities*, John Logan, ed., Russell Sage Foundation, 2014.


21 Putnam, *Our Kids*, p. 64.

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Preparing Apprentice-Adults for Life after High School

Report 5 of the MyWays Student Success Series

October 2017

Dave Lash and Grace Belfiore
for Next Generation Learning Challenges
About this report

Report 5, *Preparing Apprentice-Adults for Life after High School*, examines the adolescent developmental tasks that are key to a healthy life and to successfully navigating the work/learn landscape: reclaiming the potential of the adolescent years; finding self, strengths, and direction; acquiring capability and agency; overcoming trauma and personal challenges; and building relationships and social capital.

Report 5 is the last of five reports in Part A of the MyWays Student Success Series. Part A, “Adolescence in an Age of Accelerations,” analyzes the real-world changes and conditions that are most acutely impacting young people and outlines key developmental tasks of the adolescent years.

The *MyWays Student Success Series* examines the through-line of four essential questions for next generation learning and provides research and practice-based support to help school designers and educators to answer these questions. The series consists of 12 reports organized into three parts, plus a Visual Summary and Introduction and Overview.

The primary researchers and authors of the *MyWays Student Success Series* are Dave Lash, Principal at Dave Lash & Company, and Grace Belfiore, D.Phil., Principal Consultant at Belfiore Education Consulting.

MyWays is a project of Next Generation Learning Challenges, an initiative of the non-profit EDUCAUSE. MyWays is supported through a grant from the William and Flora Hewlett Foundation with additional support from the Bill & Melinda Gates Foundation, the Barr Foundation, and the Oak Foundation.

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REPORT 5

Preparing apprentice-adults for life after high school

“In friendlier economic times we could largely rely on tossing young people into the economy as a way of socializing them and welcoming them into adulthood and responsibility. That option has now ended.”

— Lauren Resnick, Institute for Learning, University of Pittsburgh

Sixty years ago, highway engineers faced a system design crisis with parallels to adolescence today. When the National Interstate and Defense Highways Act was passed in 1956, the US had already built, paved, and improved more than three million miles of highway, reaching within 10 miles of almost everyone in the country. Dotted with traffic lights, railroad crossings, and dangerous intersections, this pre-Interstate network was neither efficient nor safe. Inspired to create a new, “next generation” Interstate highway system that could “move the nation,” engineers built a seven-mile prototype highway in Illinois to test new design and construction standards while they scoured the country for the best highway design ideas.

Their search took them to Boston to inspect the newly opened Route 128, the nation’s first beltway and quickly one of the country’s most traveled modern highways. Many Interstate design principles for highly populated areas were drawn from 128 — along with one all-important “not-to-do”: As traffic volumes on 128 increased, the highway’s short entrance ramps forced drivers entering from local streets to “gun it” from a nearly stopped position and dart into tight gaps in highway traffic. The accidents and injuries that ensued at 128’s inadequate interchanges led to the development of the Interstate’s long acceleration lanes, meticulously engineered to allow entering drivers to gradually and safely negotiate their way into oncoming high-speed traffic.

Today, it is our school-to-work system that lacks acceleration lanes. New “drivers” hit the adult highway full speed at age 18 (or younger, if they do not finish high school). Then, over the next wayfinding decade from ages 18 to 28, today’s generation will strive to advance in learning, work, and life while negotiating many of the most challenging and high-stakes transitions of their whole lives — stakes that are considerably more challenging and higher than those of their parents’ generation. Readers who have read the four earlier reports in Part A know that we distilled the MyWays research into 15 factors and trends affecting all students: the 5 Roadblocks to stable employment, the 5 Decisions about the work/learn landscape, and the 5 Essentials in building social capital. Collectively, these 5-5-5 Realities will disproportionately impact students disadvantaged by economics, race, or personal challenges, thus

Key reading

Youth, Education, and the Role of Society by Robert Halpern

Brainstorm: The Power and Purpose of the Teenage Brain by Daniel J. Siegel, MD

The Age of Opportunity by Laurence Steinberg

Teen 2.0 by Robert Epstein

Preparing Youth to Thrive by Charles Smith et al. (Forum for Youth Investment)
worsening the opportunity gap (Report 1). Given current education design, many on-ramping teenagers will fail to successfully merge onto the highway of productive adulthood.

As we engineer next generation competency and learning systems, we need to create acceleration lanes for two stages of “driving”: the gradual preparation (“coming up to speed”) stage between, say, the ages of 13 and 18, and the subsequent “life highway” driving stage in the wayfinding decade that follows high school. Of course, acceleration lane is a metaphor for clear sightlines, safe transitions, and gradual on-ramping; furthermore, acceleration lanes for adolescents must also be tolerant of failure, rich in adult connections, and allow young people to move back and forth between childhood and adulthood.

To better understand these requirements, we begin by exploring the developmental side of adolescence, including the cultural and institutional conventions surrounding it and the new science of the teenage brain, which offers an exciting vision of future possibilities.

**Looking back on adolescence, and ahead**

Until the Industrial Age began separating work and family, and factory-model schools separated work and learning, children prepared for adulthood through daily observation of parents and other adults, and participation, as soon as age and ability allowed, in the work and home tasks of the family and community. Historically, adolescence lasted only a few short years and children grew rather naturally into their adult roles, powered by cultural conventions and adult proximity.

Today, adolescence looks radically different, commencing with puberty as early as age 9 or 10 and extending at least through the mid-20s before careers, financial independence, and marriage signal the passage into adulthood. The nature of adolescence is also different. American public education has shaped an increasingly larger portion of adolescent life, and regulations — such as child labor laws — aimed at protecting children have dramatically reduced adolescents’ connections to the adult world over time. The result is more a cul de sac of isolation from the adult world than an acceleration lane. “What is so startling and discomforting” about adolescence today, says adolescent psychologist Robert Halpern, is the abruptness of the transition from high school to the life beyond:

> It would seem obvious that it makes no sense to have a support system for young people defined by a single monolithic institution until they reach age eighteen and then, thereafter, the opposite: a fragmented, ill-organized, baffling array of options for further learning, training, and work.

In addition, this world of further learning, training, and work is becoming ever more fragmented and challenging, with greater roadblocks to employment, weighty decisions about the postsecondary
work/learn marketplace, and increasingly consequential gaps in social capital for under-30s, especially for many low-income students and students of color. The narrow college-for-all agenda our nation is currently pursuing — focused almost exclusively on academic competencies demonstrated through narrow methods of assessment — will not equip young people to pursue their goals in what Halpern calls “a complex, often opaque adult world” where “the experiences that young people most need are the hardest to come by.” Instead, as Howard Gardner says, we need to “plan backward” — starting from the kind of person we would like to see emerge — to “sculpt an educational approach that is most likely to achieve that vision.” Such an approach must be broader than redesigning schools; every part of a community will need to play a role and, as Gardner emphasizes, our approach must balance who we are with the world we face:

[We need] an education that is deeply rooted in . . . what is known about the human condition, in its timeless aspects, and what is known about the pressures, challenges and opportunities of the contemporary and coming scene. Without this double anchoring, we are doomed to an education that is dated, partial, naïve, and inadequate.

We can help adolescents today be more capable and ready for their passage to adulthood only by reimagining them as “apprentice-adults” who are absorbing knowledge and experience of the adult world in myriad informal and formal ways. Such a societal restructuring is essential to help young people acquire the competencies outlined in the MyWays Student Success Framework as they traverse an acceleration lane that offers the protection and support they need to discover, experiment, and grow into drivers — rather than passengers — of their own journeys. Happily, the past two decades of adolescent psychology and teenage brain research suggests we are long overdue for a societal re-examination and reinvention of adolescence. As Paul Tough writes in How Children Succeed, “we’ve been looking for solutions in the wrong places… and we need to approach childhood anew.” To that end, this report explores five aspects of adolescent development that bear directly on the acquisition of student competencies for success in learning, work, and life:
DEVELOPMENTAL TASK 1.
Reclaiming adolescence as an age of incredible growth and potential

“[The teenager is] an exquisitely sensitive, highly adaptive creature wired almost perfectly for the job of moving from the safety of home into the complicated world outside.”

—David Dobbs, *The New Science of the Teenage Brain*

The first of five adolescent developmental tasks we describe in this report is reclaiming adolescence as an age of incredible growth and potential, fulfillable only by robust reconnection with the adult world. This is a critical shift in thinking — not only for adults and educators, but also for adolescents themselves! Among the strongest proponents of rethinking adolescence are scientists and psychologists such as Dobbs who are studying the adolescent brain. For example, one leading expert, Laurence Steinberg, calls adolescence the “new zero to three,” noting that “until recently, it was believed that no period of development came close to the early years in terms of the potential impact of experience on the brain.”

Summarizing 25 years of research on the heightened plasticity in the brain during the adolescent years, Daniel Siegel writes in *Brainstorm: The Power and Purpose of the Teenage Brain*:

> The “remodeling” that goes on in the teenage brain has the potential to inspire so much more than just “immature” or rash behavior. This time of transition in the brain also inspires emotional spark, social engagement, novelty seeking, and creative exploration that can be optimized to empower adolescents to live their lives to the fullest.

What an extraordinary statement! By “emotional spark,” Siegel is referring to the increased emotional intensity common to adolescents. These four attributes — increased emotional intensity, social engagement, novelty seeking, and creative exploration — are not only cultural; they reflect the neurological remodeling of the adolescent brain. Siegel notes that society’s actions in helping adolescents navigate the risks and opportunities inherent in these four attributes, by creating adolescent experiences that nurture the upsides while mitigating the downsides, “can help guide the ship that is our life into

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**This time of transition in the brain also inspires emotional spark, social engagement, novelty seeking, and creative exploration that can be optimized to empower adolescents to live their lives to the fullest.**

—Daniel Siegel, *Brainstorm: The Power and Purpose of the Teenage Brain*
treacherous places or into exciting adventures.” The table below describes adolescent brain development in terms of the four attributes in Siegel’s model.

### The Essence of Adolescent Brain Development (paraphrased from *Brainstorm* by Daniel Siegel)

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<th>Downside</th>
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<tr>
<td><strong>Increased emotional intensity</strong></td>
<td>Intense emotion may rule the day, leading to impulsivity, moodiness, and extreme, sometimes unhelpful, reactivity.</td>
<td>Life lived with emotional intensity can be filled with energy and a sense of vital drive that give an exuberance and zest for life.</td>
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<td><strong>Social engagement</strong></td>
<td>Teens isolated from adults and surrounded only by other teens have increased-risk behavior; the total rejection of adults and adult knowledge and reasoning increases those risks.</td>
<td>The drive for social connection leads to the creation of supportive relationships that are the research-proven best predictors of well-being, longevity, and happiness throughout the lifespan.</td>
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<td><strong>Novelty seeking</strong></td>
<td>Sensation seeking and risk-taking that overemphasize the thrill and downplay the risk result in dangerous behaviors and injury. Impulsivity can turn an idea into an action without a pause to reflect on the consequences.</td>
<td>Being open to change and living passionately emerge, as the exploration of novelty is honed into a fascination for life and a drive to design new ways of doing things and living with a sense of adventure.</td>
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<td><strong>Creative exploration</strong></td>
<td>Searching for the meaning of life during the teen years can lead to a crisis of identity, vulnerability to peer pressure, and a lack of direction and purpose.</td>
<td>If the mind can hold onto thinking and imagining and perceiving the world in new ways, the sense of being in a rut that sometimes pervades adult life can be minimized and replaced with a sense of the “ordinary being extraordinary.”</td>
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Steinberg offers a complementary vision of adolescent brain changes as the maturation of three brain systems — the reward system, the relationship system, and the regulatory system:

Hundreds of studies of age differences in brain activity have been conducted over the past fifteen years, and they have revealed particularly dramatic differences among children, adolescents, and adults in brain regions that govern advanced thinking abilities, like planning ahead and making complicated decisions; in areas that are important for how we experience reward and punishment; and in regions that regulate how we process information about interpersonal relationships. The adolescent brain undergoes particularly extensive maturation in regions that regulate the experience of pleasure, the ways in which we view and think about other people, and our ability to exercise self-control. **These three brain systems — the reward system, the relationship system, and**
the regulatory system — are the chief places where the brain changes during adolescence. Think of them as the ‘three R’s’ of adolescent brain development. These are the brain systems that are most responsive to stimulation during adolescence, but they are also the ones that are most easily harmed.12 [emphasis added]

Halpern underscores that these essential changes pave the way to adulthood:

During middle adolescence almost every quality that will be important in adult life begins to take shape. Capacities that emerge include, for example, being able to grasp abstract concepts, to reason more complexly and systematically. High school-age youth have new capacities to plan, think through, self-monitor, self-correct, and use prior experience. They have new abilities to size up situations, examine assumptions, coordinate actions, find information, and know when to seek help. They can sustain attention and motivation for longer periods. They are beginning to be able to read situations, weigh alternatives, and reconcile competing demands. Critically, young people are more capable of monitoring and controlling their own learning processes.13 Thomas Bailey and colleagues provide the example of a young woman doing an internship as a tour guide in a museum. In the early weeks, “her supervisor and the veteran tour guide decided when she was ready to undertake specific tasks… As she gained expertise, she made decisions more on her own, about when she needed to do additional research on a particular historical issue, about style of speech she should use during the walk through the exhibit.”14

Discoveries about the importance of brain development from zero to three led relatively rapidly to a strong, ongoing national effort to strengthen early childhood development. Sadly, we have so much cultural baggage and ambivalence about the role of adolescents in American society, that no equivalent movement for adolescence has yet taken shape. Steinberg remarks on the disheartening state of adolescent affairs with this powerful contrast:

A society that tries twelve-year-olds who commit serious crimes as adults because they are mature enough to ‘know better,’ but prohibits twenty-year-olds from buying alcohol because they are too immature to handle it, is deeply confused about how to treat people in this age range.15

Siegel wrote Brainstorm for teens, parents, teachers, and other adults to bust the myths about adolescence and rethink “the power and purpose of the teenage brain” in light of recent research. The “raging hormones” theory is simply false, he reports; the brain is where the action is. The notion that adolescence is an inevitable period of immaturity and irresponsibility that we pass through is also misguided; in actuality, these years are a precious time of developmental potential that lays the foundation for our adult mental capacities. Finally, the belief that growing up requires moving from dependence on adults to total independence is contradicted by thousands of years of human history as well as by contemporary
evidence. Instead, despite the complex intergenerational chasms that exist in our culture, Siegel offers that “the healthy move to adulthood is towards interdependence, not complete ‘do-it-yourself’ isolation.”

Unfortunately, as Siegel points out, how others see us shapes our self-image and behaviors. As modern society has evolved and the period of adolescence has expanded from a few short years to a decade and a half, adults appear to be isolating adolescents more and more. As Leon Botstein, president of Bard College, laments in a *New York Times* op-ed:

> At 16, young Americans are prepared to be taken seriously and to develop the motivation and interest that will serve them well in adult life, yet adult society is too rarely ready to take young people up on this developmental offer.

Despite today’s narrow cultural stereotypes and norms about adolescence, we have countless historical and contemporary examples to draw on of extraordinary achievement on the part of young people. Two favorite examples are Melati and Isabel Wijsen, two sisters who led a Balinese environment movement to ban plastic bags (11m video), and disability rights advocate Haben Girma, the first deaf-blind graduate of the Harvard Law School (15m video).

For next generation educators interested in the history of adolescence as an age of incredible growth and potential, we recommend *Teen 2.0* by Robert Epstein, a psychologist and former editor-in-chief of *Psychology Today*. Exhaustively researched, Epstein outlines what he calls “the artificial extension of childhood” as well as hundreds of examples of young people bucking the trend.

To empower young people to reach their potential, Halpern, in *Youth, Education, and the Role of Society*, notes that we are overdue for three culture shifts: 1) how we view and understand young people; 2) how we feel about young people’s presence in adult settings; and 3) how we view and understand the kind of learning needed to achieve healthy development and potential. Here, Halpern addresses the current disconnect:

> If [adolescent] development is indeed a joint project, the societal side of the equation is problematic in American culture. The experiences, guidance, and ideas that young people need to learn about and sort through are hard to find. The channels young people need to have in order to move back and forth between childhood and adulthood are absent. The ‘work’ that we have assigned young people — do well in school and stay out of trouble — is not compelling to many youth. Success in school is too narrowly defined, as is the social role of ‘student’ itself. And avoiding trouble is simply too negative a goal to strive for. Neither task offers young people opportunities to place their energy and idealism in
the service of some valued social purpose, to explore specific social roles, and to test themselves against adult-like demands. It is hardly surprising that young people themselves respond that ‘something is missing,’ though they are not sure what it is or how to find it. Too many cannot find places in which to feel and be productive, to grow, and to do both personal and cultural work. Young people are coping in various ways, but they are not thriving as a whole.

Halpern goes on to note that,

There’s a kind of catch-22 at work here. Like every culture, ours needs young people to grow up. But because they are not yet grown up, because we cannot readily see their desire to participate and contribute, and perhaps because we are not fully comfortable with who they are, we deny young people access to what would be most helpful to them. We waste the potential inherent in this age group.

Typically, this disconnect disproportionally impacts disenfranchised youth, who lack the social capital and other resources to augment the narrow school-based experiences that Halpern describes. School weariness and disinvestment are the consequence, he notes, and “when youth become largely disengaged from learning and school, adults in the school setting (paradoxically) disinvest in them.”

What young people need, in addition to a measure of autonomy, Halpern writes, are developmentally appropriate entry points into the adult world and into the culture at large:

What is important is the opportunity to enter into a tradition, its norms, rules, practices, language and understandings, physical settings, and tools; to try on specific adult identities, experiencing what it is like to be an architect, chef, photographer, actor, or director; and, where appropriate, to stay with some endeavor in order to acquire a deeper sense of it.

This experience of entering into an adult tradition is one reason that Career-Related Technical Skills are part of the MyWays Student Success Framework (Report 9).

In addition, reform educator Deborah Meier argues, “young people must be surrounded by grown-ups whom [they] can imagine becoming and would like to become.” Adults thus serve as “models of personhood,” a rich and diverse palette of approaches to thinking, listening, learning, working, loving, and handling conflict. Halpern connects the importance of these social connections to the brain science with which we began this section:

The human brain is adapted and primed to learn through active, meaningful, socially mediated experiences. It thrives on opportunity for observation, selective imitation, and practice, but especially on tasks and problems that challenge existing mental schema, are
somewhat novel, and are partly open-ended. As individuals actively work to connect new ideas and experiences to existing knowledge and understanding, the brain itself is altered. It rewires, builds new neural structures; existing connections thicken, and new ones are created. Emotion plays a critical role in this process, “recruiting a complex network of brain regions, many of which are involved in learning.”

DEVELOPMENTAL TASK 2. Finding self, strengths, and direction

“I feel horrible about the fact that even though I know I am doing something good for others, I don’t feel fulfilled. How will I know what it really is that will make me happy if everything I try soon becomes dry and unsatisfying?”

—17-year-old female intern

The second developmental task in adolescence is finding one’s self, strengths, and direction. The adult self — what Erik Erikson called an enduring identity — integrates the many selves of childhood, along with the feelings, self-discoveries, and aspirations we hold for the future. Key parts of that self are the specific strengths within ourselves that we elect to nurture and express on the journey to adulthood. Integral to self-awareness and personal satisfaction, the development of our personal strengths is also increasingly the key to making ourselves marketable, helpful, and adaptable in the world of work.

Interest in non-academic development — in terms of grit, growth mindset, resilience, emotional intelligence, and other such skills — has generated unprecedented attention over the past decade and, consequently, were an important part of the MyWays research scan. In 2012 and 2015, the University of Chicago Consortium on School Research (UChicago Consortium) published a pair of important reports that synthesized the literature and helped shape MyWays. The first report, Teaching Adolescents to Become Learners, examines the role of “noncognitive factors” in shaping academic performance; as we discuss later, this report became the foundation, with slight modifications, of the Habits of Success competency domain (Report 7). UChicago Consortium’s second report, Foundations for Young Adult Success, is a broader literature review of adolescent development, culminating in a developmental framework that organizes young adult success into three main factors (integrated identity, agency, and competencies) enabled by four foundational components (self-regulation, knowledge and skills, mindsets, and values). What connects UChicago Consortium’s work to MyWays — and to leading experts like Halpern, Siegel, Steinberg, and Epstein — is the shared conviction that success competencies are rather meaningless without healthy, well-supported adolescent development.

UChicago Consortium defines integrated identity as:
A sense of internal consistency of who one is across time and across multiple social identities (e.g., race/ethnicity, profession, culture, gender, religion). An integrated identity serves as an internal framework for making choices and provides a stable base from which one can act in the world.\textsuperscript{29}

As noted earlier, the most active years for identity development are when the adolescent brain is changing. Furthermore, in a pattern we observed repeatedly throughout our research, young adults are maturing in a very different societal niche than previous generations. As UChicago Consortium noted,

Historically, youth transitioned directly from adolescence into full adulthood as a function of how society was organized, reaching milestones such as entrance to the full-time workforce and entrance into marriage and starting a family by one’s early 20s. As described by James Côté, a sociologist who studies identity formation, young people were expected to enter ready-made roles in adult society; the transition to adulthood was highly normatively structured by gender roles, religious beliefs, and socioeconomic status. Career pathways were more defined and decisions about and the timing of marriage and childbearing were more constrained than they currently are. Thus, previously, the identity challenge for young adults was to find ways to adapt to fixed roles.\textsuperscript{30}

Today, these fixed roles have blurred and individual choice plays a greater role, creating an ambiguity that, despite some developmental benefits, contributes to the anxiety and stress that young people often experience in developing an integrated identity.\textsuperscript{31} Accordingly, the Wayfinding Abilities in the MyWays framework, as well as developmental experiences in adult settings, are important for both identity formulation and career success. In a longitudinal study of how teenagers prepare for adulthood and the world of work, Mihaly Csikszentmihalyi and his team observed:

Young people can no longer count on a predictable future and cannot expect that a set of skills learned in school will be sufficient to ensure a comfortable career.\textsuperscript{— Mihaly Csikszentmihalyi}

Many adolescents, particularly those with familial, racial, cultural, economic, or personal differences outside the white mainstream, have never been able to count on a predictable future and have often traveled a far more conflicted and challenging journey to acquiring the “sense of internal consistency” that UChicago Consortium associates with an integrated identity. Furthermore, given the high percentage
of American students of color attending low-income, majority-minority schools, commitment to identity development and confidence acting in the world of higher education and employment is crucial.

Epstein argues that “real work” can be instrumental to forging an integrated identity. As an example, he describes Pedro, a 32-year-old chef who worked throughout his childhood in the streets of Iguala, Mexico:

[There] seems to be no trace of adolescence in Pedro’s past. He seems to have shifted, gradually and smoothly, from childhood to adulthood, with no sign of the turmoil that characterizes modern adolescence. Was Pedro harmed in some way by his childhood labors? If so, it’s not clear how. In fact, Pedro, like President Jimmy Carter and millions of other Americans raised in rural America, probably benefited from the many ways in which work, family and school were intertwined in his life. He learned a strong work ethic; he learned self-discipline; he learned the value of money; he acquired practical skills that one isn’t taught in school. But the most important benefits for Pedro were more subtle. Pedro’s life had meaning. He knew why he got up in the morning and why he sold bubblegum on the streets and why he milked cows. He worked to help his mom and siblings, to help put food on the table. He worked because he was a member of the family and the community. He worked because doing so was important.33

Rather than romanticizing the benefits of poverty and child labor, our focus here is on how Pedro’s experience and experimentation in authentic, real-world settings helped form his sense of self. (For a parallel example of self-discovery not involving child labor, see Roger Martin’s account of best-selling author Malcolm Gladwell’s adolescence.34) Halpern:

Experimentation is critical to self-discovery, to the gradual but central task of becoming ‘a person in one’s own right.’35 The young person is exploring possibilities and interests, strengths and limitations. He is playing with roles and stances toward the immediate and broader cultural worlds. He is learning about ‘the diversity of human work and human knowledge’ and beginning to explore what he might want to accomplish in life….36

Learning is about personal change. The same activities that change the brain — observation, emulation, practice, problem-solving, adjusting to constraints, reflection, integration, and reintegration — change the whole person. The learning domain, and the work of mastering it become part of the self, and at some point a matter of identity.37

To achieve such personal growth, Halpern believes that young people “have to find a way to understand school as a resource, not a passport or a set of externally imposed obstacles” and come to view non-school settings as learning resources.38 Schools and youth advocates of all kinds need to help students access and utilize a Wider Learning Ecosystem that is unprecedented in its breadth and depth; we discuss in Report 11, Learning Design for Broader, Deeper Competencies.
**Committing to strengths and individuality**

“The meaning of life is to find your gift. The purpose of life is to give it away.”

—Pablo Picasso

“Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.”

—Albert Einstein

Let’s set aside for a moment any survey or questionnaire you have ever taken to identify your strengths. While these narrow strength profiles serve a purpose, we need a much larger canvas upon which to draw “the diversity of human work and potential” and the myriad human abilities and strengths that underlie it. There are a thousand different ways to be a great teacher or project manager or chef or artist or caregiver. What makes humans so unusual as a species is that among us are horse-whisperers and information designers, language translators and deep sea divers, and even ant researchers, midwives, and circus performers. Our talents and strengths are highly varied and, at times, surprising: for example, extraordinary facial recognition ability opened the career doors for 150 security video analysts working for the London Police Department. Not everyone needs to cultivate an exotic talent to be happy, but the range of diversity and possibility is nearly unlimited, and that can be a blessing or a curse.

What appears to be universal, according to Daniel Pink’s research on motivation and satisfaction, “is the deeply human need to direct our own lives, to learn and create new things, and to do better by ourselves and our world.” Encouraging young people striving to find their identity to share and cultivate their strengths can flip a switch and change a defeated, dejected student into a passionate and empowered individual. The Purnell School in New Jersey was one of the first schools to pioneer strengths-based learning under strengths advocate Jenifer Fox. A girls’ high school for complex learners, many of their students had experienced failure at other schools and were already full of self-doubt. A short video (5m) captures, in the students’ own words, their dramatic turnaround in identity and motivation.

**In a remarkable TED talk (19m),** school principal and former teacher Chris Wejr argues that “starting with strengths” is the key to bringing out the best in students. He notes that schools are traditionally organized around a deficit-based approach that fails to ignite the special spark inside each student. Wejr relates his personal experiences with “STRENGTHS trump struggles,” including for students with significant family or learning challenges. As students gain knowledge and expertise in their area of strength, they take on a leadership role, reinforcing their sense of self-worth and motivation. As Wejr noted: “We know kids thrive when placed in a leadership role, but when kids are placed in a leadership role in an area of strength, they flourish. They all flourish.” Wejr offers no schoolwide strengths program. **We know kids thrive when placed in a leadership role, but when kids are placed in a leadership role in an area of strength, they flourish. They all flourish.**

— Chris Wejr
His formula is “Start with one. Start with strengths. Start now.” He chronicles the success of this approach in a blog post, “Learning with Logan,” about a student who, despite autism and Tourette syndrome, has a passion and aptitude for science.

The benefits of a strengths-based approach are not limited to children and adolescents. Gallup and others studying adults and organizations have found that a strengths-focus yields much higher motivation and performance than the more common weakness-focus.\textsuperscript{41} Gallup, in fact, has taken its \textit{StrengthsFinder} into a growing number of schools to build capacity among teachers and generate cultures focused on developing and maximizing student strengths.\textsuperscript{42}

Todd Rose has spent his professional life amassing the data to show that focusing on average skills is detrimental to individuals and society. A high school dropout, Rose roared back, earning a Ph.D. and becoming director of the Mind, Brain, and Education Program at the Harvard Graduate School of Education. \textit{Rose’s TED talk (18m)} summarizes his book, \textit{The End of Average}, exposing the flaw in human systems that are designed for “average” and advocating for innovations that embrace the “edges” where individual differences lie. Humans are profoundly non-average; for example, a study of infants found no less than 25 different pathways to crawling. Rose’s favorite case study is the story of Air Force cockpit design in fighter jets, because it correlates so well with public education. For peak performance, cockpits must fit pilots like a glove so all controls are instantly accessible. Could a new cockpit designed to average pilot dimensions improve performance? Should the Air Force narrow the physical requirements for accepting pilots? To investigate, an Air Force researcher crunched the data on more than 4,000 pilots. How many pilots fit within the average range on 10 different size dimensions? Zero. Not a single pilot out of 4,000 was “average.” As a result, the Air Force focused on making cockpits as adjustable as possible.

Rose calls this \textit{the jaggedness principle}. Humans (like these two men above) have their own jagged size profiles. He argues that jaggedness also exists in child development and education. In his book, he presents extensive data showing that humans develop along myriad different progressions; we have our
own “jagged learning profiles” and “jagged strengths profiles.” Within the field of developmental science, this reality has become known as “the crisis of variability” and it argues for an individual-first rethinking of education.43

If instead of forcing students to conform to “average” learning experiences, the learning environment like the cockpit enables a “fit” with their individual jagged profiles, including their strengths, then we can honor young people’s individuality and enable them to forge their identities around self-proclaimed interests and strengths rather than wearying weaknesses. The objective, as management guru Peter Drucker once put it, is “to make their strengths effective and their weaknesses irrelevant.” Rose warns that schools designed for average cannot possibly accomplish the nurturing of individual potential; instead, like a Procrustean bed, average-driven systems destroy talent. In fact, weakness-based models “make it hard for us to see much less nurture your talent” as was the case with Logan, the autistic boy, until Chris Wejr came along.44

As the students at the Purnell School demonstrate, pursuing one’s identity and strengths (even in small doses) triggers increased emotional intensity, social engagement, novelty seeking, and creative exploration — the four attributes that Siegel describes as so readily stimulated in the adolescent brain.

In addition, there is an equally important and pragmatic reason for students to cultivate their strengths: it provides a huge advantage after high school in terms of surviving and thriving in the competitive economy (that is, in navigating the 5-5-5 Realities). Honing and leveraging one’s interests and strengths should be an ongoing part of modern adolescence long before hitting the wayfinding decade after high school. In the MyWays framework, strengths development is part of the Wayfinding Abilities domain, but it also engages competencies across the other three domains as well. MyWays provides a general map upon which students can plot their own jagged strengths profile and pursue learning goals and experiences that best fit those profiles.

Rose argues that “fit creates opportunity”: when learning and work are well matched to our individual strengths and profiles, “we will have the opportunity to show what we are truly capable of.”45 And, as Rose’s colleague, Kurt Fischer, emphasizes, opportunity expands as our capabilities advance:

There are no ladders. Instead, each one of us has our own web of development, where each new step we take opens up a whole new range of new possibilities that unfold according to our own individuality.46

Fischer’s construct of a “web of development,” in lieu of a ladder or linear sequence, is incredibly important: as adults, we are constantly adjusting and adapting to a changing environment — and striving to improve our opportunities. Each of us must be the driver (not the passenger) of this journey. As an apprentice-adult in the acceleration lane, having the space and support to constructively find one’s self, develop one’s strengths, and plot a direction is a crucial developmental task. Young people granted this opportunity naturally acquire a confidence in their competencies and their power to improve and apply them. How this self-belief develops is the question we next explore.
DEVELOPMENTAL TASK 3. Acquiring capability and agency

“Mastery requires both the possession of ready knowledge and the conceptual understanding of how to use it.”

—Brown, Roediger, and McDaniel in Make It Stick

Sometimes you make one small change in instruction and — ZAP! — magic happens. That happened in Terry Boduc’s fifth-grade class during the 2015–16 school year at Memorial School in southern New Hampshire. For several years, Memorial teachers have worked with Responsive Classroom’s CARES framework as part of New Hampshire’s broader competencies initiative. A pioneer in this work, Boduc had tweaked and enhanced her CARES approach each year and seen modest gains. The next step, she believed, was to use the whole classroom experience as a laboratory, inviting her students to explore how each of the five CARES competencies impacted their daily effectiveness, what their individual jagged CARES profiles looked like, and where and how they might strengthen their CARES competencies in both school and non-school settings. Boduc facilitated class discussions about the CARES competencies exhibited by characters in class readings, as well by students and adults in the building and beyond. She also shared the breakthroughs and setbacks she experienced in developing her own CARES competencies. In short, Boduc and her students worked on what might be called:

The Five Habits of Highly Effective Fifth-Graders

The results were remarkable. Once the class figured out that these competencies were keys to personal power, they were all in. MyWays team members had the opportunity to observe the class late in the school year, and we were struck by how purposefully students applied CARES competencies to their academic learning, by their obvious growth mindset and confidence, and by their investment in self-improvement. The experience of these fifth-grade apprentice-adults illustrates at least three of the developmental tasks described in this report. First, it provided a safe, supported environment to work on self, strengths, and direction. Second, it built relationships, social capital, and guidance (which we discuss later in this report). And third, it fostered the acquisition of capability and agency — the third developmental task of apprentice-adults.

The nature of competence surfaced as an important topic early in our MyWays research when we read Education for Life and Work by the National Research Council (NRC). That report’s subtitle and main theme — Developing Transferable Knowledge and Skills in the 21st Century — is a theme we quickly recognized as crucial both to MyWays and to next generation learning in general. As adolescent psychologist Reed Larson notes, to live through the disruptive effects of globalization and modernization
in the 21st century is often to careen through a “disorderly world,” making it more challenging to develop the confidence needed both to set goals and to fulfill plans to achieve them. Among the societal conditions testing adolescents today are the 5-5-5 Realities involving employability, learning beyond high school, and social capital.

The NRC’s point is that, in the 21st century, achieving competence means that “an individual becomes capable of taking what was learned in one situation and applying it to new situations” — that is, they become capable of transfer. It is not surprising that the NRC concluded that many traditional forms of K-12 education produce very low levels of transfer. Accordingly, the MyWays team conducted in-depth research into the relationships among a person’s internal behaviors and dispositions, their learning and skill development, and their confidence and effectiveness operating in the real world, and consequently, being successful in college, career, and life.

The research suggests that competence is the union of capability and agency; we define those terms as follows:

**Capability** is “knowledge and the understanding to use it in real-world situations” while **agency** is “a deep and durable self, acting to shape one’s development and environment.” Together they constitute competence. For example, within the MyWays Student Success Framework, capability and agency should be considered as mutually reinforcing aspects of each of the 20 competencies.

Additionally, the behaviors, skills, and dispositions that comprise agency (as well as capability) are local, or situation-specific; that is, an individual might be high agency in one area — say, in math or technology skills — but low agency in English, social skills, or developing a personal roadmap to a new goal.
example, a mechanically minded person might exhibit high agency working with cars, but lack confidence and agency in academic settings. In addition, our “deep and durable self” (agency) may operate differently in the short, medium, and long term. Some people confidently apply their social skills in spontaneous, short-term conversations, for example, but are less steady and effective at maintaining and deepening relationships over months or years. As a result, a key takeaway from the agency research for next generation educators is the importance of developing agency within specific competencies and settings, rather than as a separate standalone or overarching ability.

**Agency as a three-step form of improvisation**

For next generation educators working to create learning experiences that will foster deeper capability and agency in students of all ages, it is helpful to understand agency as a form of improvisation — a process that can be learned and mastered. *Agency* is one of the three key factors in UChicago Consortium’s developmental framework, where it is defined as “the belief that you have control over what happens to you in life… [and the ability] to manage one’s environment.”\(^{50}\) According to British researchers Biesta and Tedder, we often improvise and act upon our environment through the people in it — parents and siblings at home; friends and strangers in the neighborhood; and fellow students and teachers at school.\(^{51}\)

To illustrate, let’s consider the 2016 story of 15-year-old Anthony Ruelas. When a fellow student began suffering from an asthma attack in class, the teacher emailed the school nurse and told students “to stay calm and remain in their seats.” Minutes later, when the student fell out of her chair and blacked out, Ruelas picked up the girl and, defying the teacher’s orders, carried her to the nurse’s office. Happily, the afflicted student recovered; appallingly, Ruelas was suspended for his quick action, causing national outrage. Ruelas’ suspension demonstrates the unhealthy premium placed on compliance over agency in too many schools; however, we share his story here to unpack how agency might have operated in his mind during the incident. As Emirbayer and Mische formulated it,\(^{52}\) *agency involves an improvisational process of retrieving the past, to project the future, to inform the present* — a model that may illuminate Ruelas’ improvised action as follows:

1. **Retrieving the past.** During this “iterational” step, Ruelas was retrieving from his brain relevant prior knowledge and experience about the medical condition of his fellow student, his assessment of the teacher’s judgment, the school’s rules and norms, the location of the nurse’s office, and his own sense of ethics and obligation. During this step, according to interviews, memories flooded back to Ruelas of his father’s death by stabbing, and his gasping for breath — not unlike the classmate.

2. **Projecting the future.** This second “projective” step involves “the imaginative generation... of possible future trajectories of action.” In other words, Ruelas conceived of alternative courses of actions and their potential consequences for his classmate, and perhaps for himself. What would be the likely outcome for his classmate if he followed the teacher’s orders? Or if he carried her to the nurse’s office?
(3) **Informing the present.** The third “practical-evaluative” step is “making judgments among alternative possible trajectories of action” and taking action on one option. Within minutes of the asthma attack starting, Ruelas completed his retrieval of past knowledge and experience, and his projection of potential future trajectories, electing the course of action in that moment that his judgment deemed best: intervening on behalf of his classmate (and thus exerting a change upon his environment) despite possible repercussions to himself.

Every day in the life of a young person, agency is exercised through improvisations with others based on this same three-step mental process. This is true in school, work, relationships, and independent living — both in daily encounters like the Ruelas story and in our pursuit of long-term goals. Note the crucial role played by experience: the more you have seen and lived, the more prior knowledge you can retrieve when an improvisation is called for. The more episodes of a similar nature that you have witnessed or participated in, the more precise and clear your alternative courses of action may be. And, the more you have tested your instincts and judgment in past situations, the keener they are likely to become. Brown, Roediger, and McDaniel put it this way: “At the root of our effectiveness is our ability to grasp the world around us and to take the measure of our own performance.”

**The MyWays Project’s underlying emphasis on “capability and agency”**

At the start of this report, we proposed reimagining adolescents as apprentice-adults traversing a lengthened acceleration lane to adulthood. That acceleration lane should be full of authentic, real-world learning experiences, as it is through these experiences that apprentices accrue the knowledge and competence (capability and agency) needed to transfer their learning effectively to the myriad new situations they will encounter in their wayfinding decade. As Halpern, Siegel, and Steinberg stress, the adolescent brain is primed for this exact developmental task, but young people cannot do it alone. As Halpern says, “it takes a whole society,” but in most cases, next generation educators will be leading the way.

Despite the importance of authentic, real-world learning experiences, project-based learning and other forms of deeper in-school learning also foster capability and agency, along with Collaboration & Communication, Critical Thinking & Problem Solving, and many other MyWays competencies. Multiple learning objectives can be seamlessly integrated into learning experiences. The Forum for Youth Investment offers a helpful framework that advocates a layered approach to program design: embed a social-emotional learning sequence “below” the project sequence, and underpin both of these planks with safe space, responsive practices, and staff supports.

Helping next generation educators focus on learning constructs and approaches that foster capability and agency (and broader and deeper competencies) is one of the goals of the MyWays Project. In particular, among the topics discussed in Report 11, *Learning Design for Broader, Deeper Competencies* is a distillation of agency research and learning science that identifies and describes the following eight levers, which are among the most effective techniques for fostering capability and agency:
For a great many students, acquiring capability and agency is impeded by the impact of trauma and other special challenges. Learning to manage or overcome these adversities is the next developmental task we will explore.

**DEVELOPMENTAL TASK 4. Overcoming trauma and personal challenges**

“The first step is to see the problems, and the first problem is the failure to see the people.”

—David K. Shipler, *The Working Poor*

The fourth developmental task, for a great number of apprentice-adults, is overcoming or mitigating the special challenges of trauma, poverty, physical or health limitations, emotional or learning difficulties, abuse or neglect, addiction, language and cultural barriers, and discrimination. One positive outcome of standards-based testing, for all its controversy, has been a heightened awareness, through data analysis, of the damage that poverty and these other challenges can cause a child; in response, we have seen the rise of community schools, wraparound services, and professionally-trained counselors. At the same time, poverty in America has deepened and the safety net has been shredded. In *So Rich, So
Poor, Peter Edelman chronicles the welfare “reform” of the 1990s and its long-term negative impacts on children, including the 6.6 million (1 in every 10 children) now living in extreme poverty (half the federal poverty level). Furthermore, as Robert Putnam’s research shows, children and families in poverty are now far more isolated from even informal, non-governmental social supports as American society has become more economically and geographically polarized. Abraham Lincoln reminds us of society’s obligation to “afford all an unfettered start” in life including, we believe, support for individuals to heal, grow, and thrive despite these challenges.

To this end, research across the social sciences has dramatically improved our understanding not only of these special challenges and the long-term psychological and health damage they can levy but also of promising ways to help children and adolescent repair. The opportunity is real, however, the scale of the problem and the fragmented nature of current responses in most communities call for far more effort, integration, and collaboration between schools and other youth-serving organizations.

Unchecked, these special challenges become corrosive, long-term inhibitors of healthy development. In this section, we highlight the role of trauma on psychological and physical health, and ask readers to extrapolate the common themes of other forms of special challenge.

**Why addressing trauma is so important to adolescent development**

Robert Putnam summarizes the effects of trauma-induced toxic stress on brain development:

> The stress response itself (that is, sharp increases in adrenaline, blood pressure, heart rate, glucose, and stress hormones) represents a highly effective defense mechanism, fashioned by evolution to help all animal species deal with immediate danger. Moderate stress buffered by supportive parents is not necessarily harmful, and may even be helpful, in that it can promote the development of coping skills. On the other hand, severe and chronic stress, especially if unbuffered by supportive adults, can disrupt the basic executive functions that govern how various parts of the brain work together to address challenges and solve problems. Consequently, children who experience toxic stress have trouble concentrating, controlling impulsive behavior, and following directions. Extreme stress causes a cascade of biochemical and anatomical changes that impair brain development and… can produce measurable physiological changes in the child that lead to lifelong difficulties in learning, behavior, and both physical and mental health, including depression, alcoholism, obesity, and heart disease.

Addressing toxic stress in adolescence is important for two reasons. First, when children reach their teenage years and begin to have more independence, toxic stress often triggers risky and disruptive behaviors with devastating consequences for the individual, family, and community. Second, because the adolescent brain is highly plastic and still developing, the effectiveness of trauma treatment is often higher than in later years.
Adverse Childhood Experiences (ACEs) are our chief markers for trauma. In an extraordinary story of forensic medicine that rivals John Snow’s research on the cause of cholera, Dr. Vincent Felitti, a preventative medicine specialist at Kaiser Permanente, first discovered in the 1980s the connection between childhood trauma and later health disorders. Paul Tough summarizes the findings with respect to problems during the school years:

Just 3% of children with an ACE score of zero displayed learning or behavioral problems in school. But among children who had four or more ACEs, 51% had learning or behavioral problems. A separate national study published in 2014 (using a somewhat different definition of ACEs) found that school-aged children with two or more ACEs were eight times more likely than children with none to demonstrate behavioral problems and more than twice as likely to repeat a grade in school. According to this study, slightly more than half of all children have never experienced an adverse event, but the other half, the ones with at least one ACE, account for 85% of the behavioral problems that educators see in school.

The extent of this epidemic is enormous: nearly half of all children experience ACEs. Two-thirds of children living below the federal poverty level (FPL) experience ACEs, as do 59% of those between 100% and 199% of FPL compared with 27% of children in families at 400% of FPL or higher (see graph below). (For this graph and more statistics, visit ACEs Too High.)

Given the scale of the ACE epidemic, much more prevention is called for. “Helping people after the fact is really nibbling at the edges of the problems,” Dr. Felitti says. Nevertheless, research reported in EdWeek has found that “having a strong relationship with an influential adult can provide stability for a
Children from their earliest life need to learn how to manage adversity.…Adults help children develop strategies to help cope with these stressors. Whether it’s reading or managing stress, adults provide the scaffolding for children to build those skills themselves.  

**Restoring the path to healthy development**

To assist next generation educators in supporting and guiding apprentice-adults through the critical development task of overcoming trauma and other special challenges — and developing resilience ([7m video](#)) — we recommend four resources:

*Building Core Capabilities for Life, Center on the Developing Child, Harvard University, 2016*

This 17-page briefing summarizes the psychology of trauma with a focus on how core capabilities can be restored. The report contains a number of useful graphics, including the following, which illustrates how environmental triggers and supports can result in positive or negative actions:
The briefing emphasizes attention to both environmental approaches (such as streamlining supports and increasing access to services) and individual approaches, which we summarize as follows:

- Provide training in specific self-regulatory and executive function skills aligned with the environment and context in which they will be used.
- Teach strategies for reassessing a stressful situation and considering alternatives. Such strategies, when practiced in the context of safe, supportive interventions, show the potential to prevent automatic responses from undermining effective self-regulation.
- Teach strategies for recognizing and interrupting automatic responses to give more time to activate intentional self-regulation in stressful situations.
- Strengthen intentional self-regulation through specific training techniques that target the skills that can override automatic responses.
- Create a “multiplier effect,” in which small successes lead to ever-increasing use of intentional self-regulation and a reinforcing cycle of positive emotional responses.

**Concept of Trauma and Guidance for a Trauma-Informed Approach**

Substance Abuse and Mental Health Services Administration (SAMHSA), 2014

Also 17 pages, this guide offers a framework for understanding trauma and developing a trauma-informed approach. From the introduction:

Individuals with experiences of trauma are found in multiple service sectors, not just in behavioral health. Studies of people in the juvenile and criminal justice system reveal high rates of mental and substance abuse disorders and personal histories of trauma. Children and families in the child welfare system similarly experience high rates of trauma and associated behavioral health problems. Young people bring their experiences of trauma into the school systems, often interfering with their school success. And many patients in primary care similarly have significant trauma histories which has an impact on their health and their responsiveness to health interventions.

In addition, the public institutions and service systems that are intended to provide services and supports to individuals are often themselves trauma-inducing. The use of coercive practices, such as seclusion and restraints, in the behavioral health system; the abrupt removal of a child from an abusing family in the child’s welfare system; the use of invasive procedures in the medical system; the harsh disciplinary practices in the educational/school systems; or intimidating practices in the criminal justice system can be re-traumatizing for individuals who already enter the systems with significant histories of trauma. These program or system practices and policies often interfere with achieving the desired outcomes in these systems.
As a result, service organizations are increasing adopting a trauma-informed “4 Rs” approach, in which all staff have a basic realization about trauma, recognize the signs, respond with appropriate principles, and resist re-traumatizing clients. The guide describes the six key principles of such an approach:

- Safety
- Trustworthiness and transparency
- Peer support
- Collaboration and mutuality
- Empowerment, voice, and choice
- Cultural, historical, and gender issues

**Preparing Youth to Thrive: Promising Practices for Social & Emotional Learning**  

This extensive report is an excellent synthesis of best practices in positive youth development. While it focuses on social-emotional learning (SEL) and not trauma per se, it offers an excellent program and systems framework that could be applied to trauma or any other special challenge that apprentice-adults are facing. It also proposes standards, key youth experiences, and staff practices for six SEL areas: emotion management, empathy, teamwork, responsibility, initiative, and problem solving.

**Ready by Design: The Science (and Art) of Youth Readiness**  

This report “is the culmination of a broad, cross-systems, cross-fields synthesis of the science of readiness.” It provides the broad framework through which next generation educators can integrate their academic objectives with positive youth development including work on trauma and other special challenges. The report describes 10 readiness abilities and the skillsets and mindsets needed to support them. It also describes readiness practice — breaking it down into environments, relationships, experiences, and space and time — as well as discussing threats to youth readiness (traps and gaps).
DEVELOPMENTAL TASK 5. Building relationships, social capital, and guidance

“We Americans like to think of ourselves as “rugged individualists” — in the image of the lone cowboy riding towards the setting sun, opening the frontier. But at least as accurate a symbol of our national story is the wagon train, with its mutual aid among the community of pioneers.”

—Robert Putnam, Our Kids

The fifth and final developmental task is the adolescent’s natural social maturation and the building of relationships, social capital, and guidance structures. Social connectedness is vital to psychological health in its own right; however, our focus in this section is on three aspects of the social domain that are part of the acceleration lane that enables apprentice-adults to on-ramp smoothly to the adult highway. The first aspect is what Halpern calls the shift from the peer world to the adult world. The second is the importance of building social capital for further learning and employment, especially for lower-income and minority adolescents. The third aspect is the apprentice-adult’s role in seeking out and “guiding their own guidance” with respect to education, work, and life choices.

Relationships and the shift from the peer world to the adult world

Social engagement, novelty, and increased emotional intensity — three attributes of the changing adolescent brain — help explain the adolescent’s exploration of new relationships. In his book, The Social Animal, David Brooks describes the building of a trusting relationship: “It grows when two people begin volleys of communication and cooperation and slowly learn they can rely on each other.” Relationships of this kind can have a deep impact on us; as LinkedIn founder and relationship authority, Reid Hoffman, writes:

If your friends are the types of people who get stuff done, chances are you’ll be that way, too. The fastest way to change yourself is to hang out with people who are already the way you want to be.

There is an imbalance, however, within American adolescence between peer and adult relationships. As Siegel explains:

When we realize that in our evolutionary past we raised children collaboratively and close family or friends or other designated and trusted individuals in our tribe cared for our offspring, we realize how unnatural being isolated as a parent, or as a family, truly is. When it comes to village life for the teen, during the time he or she is pushing against parents, there would be other adults in the tribe to whom the teen could turn for security and connection. But when the only close adult is your parent, the natural way to go in adolescence is entirely towards other adolescents.
Halpern contrasts the benefits and dangers of this isolation from adults:

Among other things, a focus on peers provides an opportunity to learn to develop mature peer relationships and to learn about intimacy. Peer worlds create space for young people’s creativity in “developing new learning and life strategies… new combinations of formal, non-formal, informal and peer learning.” Young people learn from and energize each other and feed off each other’s ideas. They sometimes prefer to master new ideas, procedures, and disciplines informally, using their own self-generated resources and one another.

The desire for autonomy and self-responsibility during these years is, in some measure, an act of resistance as well as a desire to be free from adult controls. Yet the results are not always what young people expect, and they are sometimes the opposite. The more powerful and complete the peer world, the more it is detached from pathways towards adulthood. Peer pressure (especially when combined with difficult personal histories) can make it more difficult for young people to bring true feelings and actions together and to work on finding an authentic self. If young people need a measure of autonomy, then, they also need developmentally appropriate entry points into the adult world and into the culture at large.

Accordingly, the first part of this admittedly challenging developmental task for apprentice-adults is to cultivate healthy, meaningful relationships with both peers and adults. Next generation educators have an important role in fostering and facilitating this work through the design of student experiences, SEL practices, and adult engagement.

**Building social capital for further learning and employment**

In the previous report, we described 5 Roadblocks that make the labor market particularly challenging for apprentice-adults; 5 Decisions crucial to navigating the work/learn highway that follows high school; and 5 Essentials in building social capital that restrict access to the advisors, acquaintances, and “friends of friends” that are instrumental to advancing in one’s education and career. Putnam warns that “Americans’ social networks are collapsing inward” as lower income families are increasingly isolated geographically, educationally, and socially.

This problem is particularly acute because, as an Organisation for Economic Co-operation and Development (OECD) report notes, social capital and networks drive our modern world:

> The dynamics of our society and particularly our new economy will increasingly obey the logic of networks. Understanding how networks work will be the key to understanding how the economy works.
The gig economy of Uber, TaskRabbit, and other forms of short-term work, for example, depends heavily on who you know as much as what you know. And, as discussed in the previous Report 4, a person’s weak ties to co-workers, acquaintances, and friends of friends, turn out to be an important part of who you know when it comes to bootstrapping one’s career. A world that operates on networks and social capital can be problematic for apprentice-adults not practiced in meeting new contacts and maintaining weak tie relationships. Many adolescents are expert in social media and connecting within the peer world, but have few adult acquaintances beyond their family. Others are not looking for, or are too shy or embarrassed, to act in such an “adult way.” As one next generation educator say, “we need to help them delineate between making friends and making contacts.”

For many minority adolescents, there is the added complication of needing to become comfortable culture-switching and code-switching between their informal peer culture and language and the more formal adult culture and language.

Despite these difficulties, building social capital especially among adult contacts while still on the acceleration lane is an enormous advantage to every apprentice-adult, and they all need encouragement and support to apply themselves to this part of their development. As entrepreneur Robert Loch noted,

If someone is struggling to get an idea off the ground, it’s not necessarily a bad idea, it may be that they don’t have access to the right people to get it started.

— Robert Loch, entrepreneur

The apprentice-adult’s role in “guiding their own guidance”

In their report, Core & More: Guiding and Personalizing College and Career Readiness, the Getting Smart team of Ryerse, Schneider, and Vander Ark thoughtfully articulate the shift needed to guide students within next generation learning environments:

[Next generation] learning offers a complementary potential of stronger engagement, customized pathways and equalized opportunities. But helping more students reach higher standards will take more than updated core academic programs; it will require more robust guidance and support services as well.…

In practice, the best student guidance systems are blended (leveraging technology and in person instruction and services), distributed (leveraging staff in addition to school counselors), and scheduled (utilizing an advisory). To ensure effective implementation
and attainment of outcomes. They must connect academic preparation, thought patterns, interests and learning to students’ college and career aspirations.\textsuperscript{77}

We believe there is a corresponding shift required on the part of students themselves to become more proactive in seeking guidance and being the driver (not the passenger) of the guidance process, including the cultivation of mentors. While that sounds like a tall order, in fact, it is exactly what will be required of them from the moment they leave high school. Accordingly, they should begin gaining experience and skill at this responsibility as early as possible.

To this end, Hoffman and Casnocha argue that anyone starting out needs to be in “permanent beta” — that is, they need to adopt a mindset to 1) always be starting, and 2) forever be a work in progress. Such a mindset means being forever curious about how the world around you works, where your strengths and opportunities lie, and how you can best move forward.\textsuperscript{78}

The three aspects of this final developmental task — relationships, social capital, and guidance — dovetail with many of the competencies in the four MyWays domains. Wayfinding Abilities, of course, depend on an individual’s social maturation and connections. In the Habits of Success domain, Self-Direction, Positive Mindsets, and Social Skills & Responsibility support this developmental task and others. All of the Creative Know How competencies can be usefully applied in relationship building, while several Content Knowledge competencies can provide needed perspective and knowledge.

**Key takeaways for next generation educators**

To recap, here are the five developmental tasks of adolescence that our research showed are crucial to becoming an adult in today’s disorderly world and, in the words of developmental crusader Dr. James P. Comer, “to grow in a way that they can take care of themselves, get an education, take care of a family, be responsible citizens of the society and their community.”\textsuperscript{79}

**Recapping Key Development Tasks of Adolescence**

1. **Reclaiming adolescence as an age of incredible growth and potential**
   Neurological research reveals high plasticity in the adolescent brain — the “new zero to three,” according to one researcher — “exquisitely sensitive” to increased emotional intensity, social engagement, novelty seeking, and creative exploration. Properly encouraged and supported, these attributes hold enormous potential for young people, fulfillable only by robust reconnection with the adult world. Reversing “the artificial extension of childhood” that adolescence has become, and improving preparation for the challenges of learning and working beyond high school begins with a critical shift in thinking by young people, as well as adults and educators.

2. **Finding self, strengths, and direction**
   Part of the work of adolescence is constructing an “integrated identity” that joins “feelings, self-discovers, and aspirations” into “an internal framework for making choices” and acting in the world. “Finding self” can be an especially conflicted and challenging journey for adolescents with family, racial, cultural, economic, or
Each of these five developmental tasks is anchored, as Howard Gardner urges, in both the science of human development and the “challenges and opportunities of the contemporary and coming scene.” None of the five is being fully supported by families, schools, and communities except in small pockets. Yet, if we do not make a radical course correction, American adolescence will deviate more and more from being a useful transition to adulthood. The Coalition on Chicago School Research signals the optimism that the effort will require:

It will not be enough to simply expand options by adding more well-run programs, providing a few more resources, or reforming a subset of schools. It will take a transformation of adult beliefs and practices within the existing institutions and structures that shape children’s learning and development. It will mean building a collective sense of responsibility for expanding the possibilities for all young people, not just our own children. It means integrating afterschool providers’ lens of youth development with educators’ knowledge of learning theory with families’ deep understanding of the unique needs and circumstances of their children. By drawing from the knowledge, approaches,
and experience of many different adults from many different settings, we can give the next generation of young people the opportunities they need to meet their full potential.\(^8^0\)

**Takeaway 1:** A first step for next generation educators, we believe, is the integration of “many different adults from many different settings” to redefine the very nature of adolescence. We can no longer toss “young people into the economy as a way of socializing them,” as Lauren Resnick warns. Fortunately, next generation learning, in its many personalized, whole-child flavors and varieties, is already a far better platform for supporting adolescent development than traditional school models which focus on compliance and discipline, frequently quashing personal development. Laying out a vision for how the five developmental tasks will be nurtured would be a logical starting point. Combined with forging deeper connections with the adult world and providing better mapping of the many intersecting paths to work and learning experiences beyond the classroom, the outlines of an effective acceleration lane take shape.

Two resources may be of value. *Learning While Earning: The New Normal*, by Anthony Carnevale and his team at the Georgetown Center on Education and the Workforce offers a pragmatic summary of working learners bootstrapping their careers after high school — a portrait that helps illustrate the importance of the five developmental tasks as well as the MyWays competencies and opportunity engine. *It Takes a Whole Society*, by Robert Halpern, outlines how schools can foster adolescent development by cultivating the “variety of learning and contributing experiences” that tap the resources in the broader community and workplace.

**Takeaway 2:** Working with young people on these five developmental tasks can serve as a forum for exploring the inequities facing low-income students and students of color, and developing specific strategies for overcoming the 5-5-5 Realities of employment, the work/learn landscape, and social capital adversities. While every apprentice-adult will benefit from these developmental tasks, there is every indication that the age of accelerations is widening the opportunity gap for the have-nots. The 5-5-5 Realities outline 15 specific obstacles that student/school/community partnerships can tackle together. None are easy, but efforts will only be successful if adolescent development helps build a solid foundation under each apprentice-adult, guides them in how to code-switch into mainstream society (using the broad culture-switching definition of the term), and helping them become “agents of change in their own lives.”(3m video)\(^8^1\)

The Levers for Capability and Agency are one resource for working on equity issues (See Report 11 of this series, *Learning Design for Broader, Deeper Competencies*, for more on the levers). Another resource is the Circle of Courage model (9m video), comprised of belonging, independence, mastery, and generosity. A very simple and elegant positive youth development tool, the Circle of Courage was developed by Dr. Martin Brokenleg and Larry Brendtro to integrate the cultural wisdom on tribal peoples with modern youth development research. A companion book, *Reclaiming Youth at Risk*, builds on the model. One last resource on confronting inequity is *Black Faces in White Places: 10 Game-Changing*
Strategies to Achieve Success and Find Greatness by Randal Pinkett and Jeffrey Robinson. Although the book was written for adults, it explores four crucial questions that apprentice-adults of color must also address: Identity: Who am I? Meritocracy: Can I be judged on my merits? Society: Is America color-blind? and Opportunity: Do I have equal opportunity to fulfill my destiny?

**Takeaway 3:** Meaningful work is an important contributor to an integrated identity — knowing that we have contributed something valued by others. At a time when youth employment is evaporating, part of the acceleration lane we need to build should include meaningful work experiences. Adolescents take important steps toward adulthood by experiencing what it is like to provide a service to others, receive a first paycheck, work in a team alongside adults, and put new on-the-job learning to immediate use. The American Psychological Association writes, “Our work can be a big part of our identity and offer insights into what is important to us….Finding one’s work meaningful is associated with life satisfaction and overall well-being.”

“To be of use”
The pitcher cries for water to carry
and a person for work that is real.
— Marge Piercy

Learning how an industry or business operates — its norms, rules, and practices, as Halpern puts it — is an important window into how the world works. Important enough, we believe, to include Career-Related Technical Skills in the MyWays framework (Report 9).

As next generation educators, building connections to real work experiences and opportunities is vital in a time of declining youth employment. California’s Linked Learning initiative, for example, integrates four core components: rigorous academics, career-technical education, work-based learning, and supports to ensure equity of access, opportunity, and success.

Meaningful work with robust adult connection can also be found in non-paying jobs, including the many excellent examples of meaningful community service projects. Two resources illustrate the range of what is possible. Project H Design was founded by designer Emily Pilloton to engage young people in design/build projects deeply connected to community and real social problems (2m video). All eight Levers for Capability and Agency are practiced in these real-life experiences. The second resource is the example of youth courts which have exploded in popularity — there are over 1,000 of these peer-driven diversion programs across the country today:

In addition to imposing constructive sanctions for juvenile offenders, youth courts also offer a powerful set of civic opportunities for youth in the community. Youth volunteers actively learn the roles and responsibilities of the various parts of the judicial system. They act as law enforcement professionals, prosecuting and defense attorneys, clerks, bailiffs, jurors and even judges to gain experiential knowledge of the juvenile justice
system. The youth respondents and volunteers acquire valuable understanding about police and probation officers, youth services workers, and court administration, paving a path for academic and career building opportunities.

Youth courts are a powerful example of what is possible, not only in creating meaningful work experiences in non-traditional ways, but also how they apply our other two takeaways: integrating multiple youth-serving institutions to redefine the nature of adolescence as well as providing at risk youth and students of color with a window on the world and civic life beyond school.

This report began with the observation that the teenager is “an exquisitely sensitive, highly adaptive creature wired almost perfectly” for the transition to adulthood. Incorporating the developmental needs of adolescence in next generation learning models will empower apprentice-adults to use these years to their full potential.

We have now concluded Part A of the series, “Adolescence in the Age of Accelerations.” Report 1 describes how rapid change in the world is impacting adolescents including declining youth employment. Report 2 probes five specific roadblocks to employment, while Report 3 examines the five key decisions that adolescents face as they navigate the work/learn landscape following high school. Report 4 outlines the heightened need for social capital, and special obstacles that exist for low-income and minority students. These topics comprise what we have called the 5-5-5 Realities. The current Report 5 explores the developmental side of adolescence in light of recent findings about the “remodeling” taking place in the adolescent brain.

Building on the context provided by these reports, the next Part B of the series, “Broader, Deeper Competencies for Student Success,” describes the MyWays domains and competencies including their connection to the trends and conditions in the world today as well as domain principles and resources that next generation educators should consider.

Before moving on to a full description of the MyWays Student Success Framework in Part B, we conclude this report with a compilation on the following page of the takeaways from each of the Part A reports.
A Compilation of the Takeaways from the Part A Reports

Report 1, Opportunity, Work, and the Wayfinding Decade
1. The vast majority of real-world conditions that today’s young people face in the wayfinding decade apply to students of all socioeconomic levels and racial/ethnic groups; however, the severity, timing, and resource needs related to these conditions impact different groups in profoundly different ways.
2. We need to pivot from a narrow “college-for-all” mentality to an “invest in skills” approach aimed at equipping every student with a reachable employment opportunity and the competencies they need to direct their own lifelong learning.
3. No American institution currently “owns” the task of taming the work/learn landscape beyond high school.
4. Schools and districts cannot do this work alone, but they must be the leaders and catalysts for the kind of collective initiative the work requires.

Report 2, 5 Roadblocks to Bootstrapping a Career
1. The first shift in thinking that must be made is that “average is over.” Graduating with the same skills and abilities as myriad other high schoolers is a distinct competitive disadvantage.
2. We need to pivot from “getting the right answer without making mistakes” to acquiring strategies for surviving and thriving in a more Darwinian time.
3. Labor market and hiring trends suggest that, in today’s competitive economy, the making of a career (including college and other postsecondary education) involves the continual interplay of four components:
4. The 20 MyWays competencies relate to the opportunity engine’s four blades in two ways.
5. Preparing students to be ready for what follows high school requires far more real-world immersion and authentic learning than is typically provided.
6. Our final takeaway is that one response to the change and upheaval in the labor market is a marked increase in just-in-time learning.

Report 3, 5 Decisions in Navigating the Work/Learn Landscape
1. The first takeaway for next generation educators is that the opportunity gap will continue to worsen until we both improve academic preparedness for college and create new systems to facilitate student success in the work/learn landscape.
2. The postsecondary system has four hindering forces that are suppressing outcomes: poor career mapping and counseling, uneven quality of postsecondary programs, escalating tuition costs and student debt, and competing pressures on students.
3. As a nation, we need to foster the broader, deeper competencies to do college-level work and navigate the work/learn landscape.
4. We must build work/learn pathways that structure information, opportunities, and support for students beyond traditional K-12 education.

Report 4, 5 Essentials in Building Social Capital
1. Social capital is an outgrowth of each person’s developmental trajectory and life circumstances, influenced by both opportunity and preparation.
2. Next generation education can promote social capital development as an extension of two existing next generation focus areas: social-emotional learning and real-world learning.
3. There is an urgent need for schools to become porous organizations, as urged by Cahill, and to promote and spearhead the development of various forms of work/learn pathways that extend beyond the school walls and assist young people in building their social capital.
4. Building social capital is doubly difficult for marginalized young people.
5. We need to develop ways to measure and assess the social capital of young people if we are to build rigorous and effective social capital systems.

Report 5, Preparing Apprentice-Adults for Life after High School
1. A first step for next generation educators, we believe, is the integration of “many different adults from many different settings” to redefine the very nature of adolescence.
2. Working with young people on these five developmental tasks can serve as a forum for exploring the inequities facing low-income students and students of color, and developing specific strategies for overcoming the 5-5-5 Realities of employment, the work/learn landscape, and social capital adversities.
3. Meaningful work is an important contributor to an integrated identity — knowing that we have contributed something valued by others.
Endnotes for Report 5


2 For a detailed history of these regulations and restrictions, see Robert Epstein, Teen 2.0: Saving Our Children and Families from the Torment of Adolescence, Quill Driver Books, 2010.

3 Halpern, Youth, Education, and the Role of Society, p. 10.

4 Ibid., p. 4 and p. 25.


7 We thank Susan Crown for the “drivers not passengers” image from the Preparing Youth to Thrive website.


11 Ibid., p. 9.

12 Steinberg, The Age of Opportunity, p. 36.


16 Siegel, Brainstorm p. 3.

17 Ibid., p. 4.


22 Ibid., p. 4.

23 Ibid., p. 43.

24 Ibid., p. 30.


Halpern, Youth, Education, and the Role of Society, p. 22.


ibid., p. 22.

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Roger Martin is dean of the University of Toronto’s Rotman School of Management and a world-renowned expert on design thinking. His accounting of Gladwell’s adolescence is in Elliot Washor and Charles Mojkowski, Leaving to Learn, Heinemann, 2013, pp. 39–40.


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K-12 Schools: Putting Students on an Early Path to Great Jobs and Great Lives, report, Gallup.


Rose, The End of Average, p. 186.


Among the many sources on this subject, three particularly useful ones are Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, Make It Stick, Harvard University Press, 2014; David Perkins, Making Learning Whole, Jossey-Bass, 2010; and Washor and Mojkowski, Leaving to Learn.


Nagaoka, Farrington, Ehrlich, and Heath, Foundations for Young Adult Success, p. 20.


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*SAMHSA’s Concept of Trauma and Guidance for a Trauma-Informed Approach*, Trauma and Justice Strategic Initiative, Substance Abuse and Mental Health Services Administration (SAMHSA), 2014, p. 9–10.


Siegel, *Brainstorm* p. 35.


Putnam, *Our Kids*, p. 211.


80 CCSR Foundations for Young Adult Success. p6

81 Jose Garcia, in a New Tech High video, published March 30, 2016. 2:31m


84 National Association of Youth Courts. http://www.youthcourt.net/about/significance-of-youth-courts