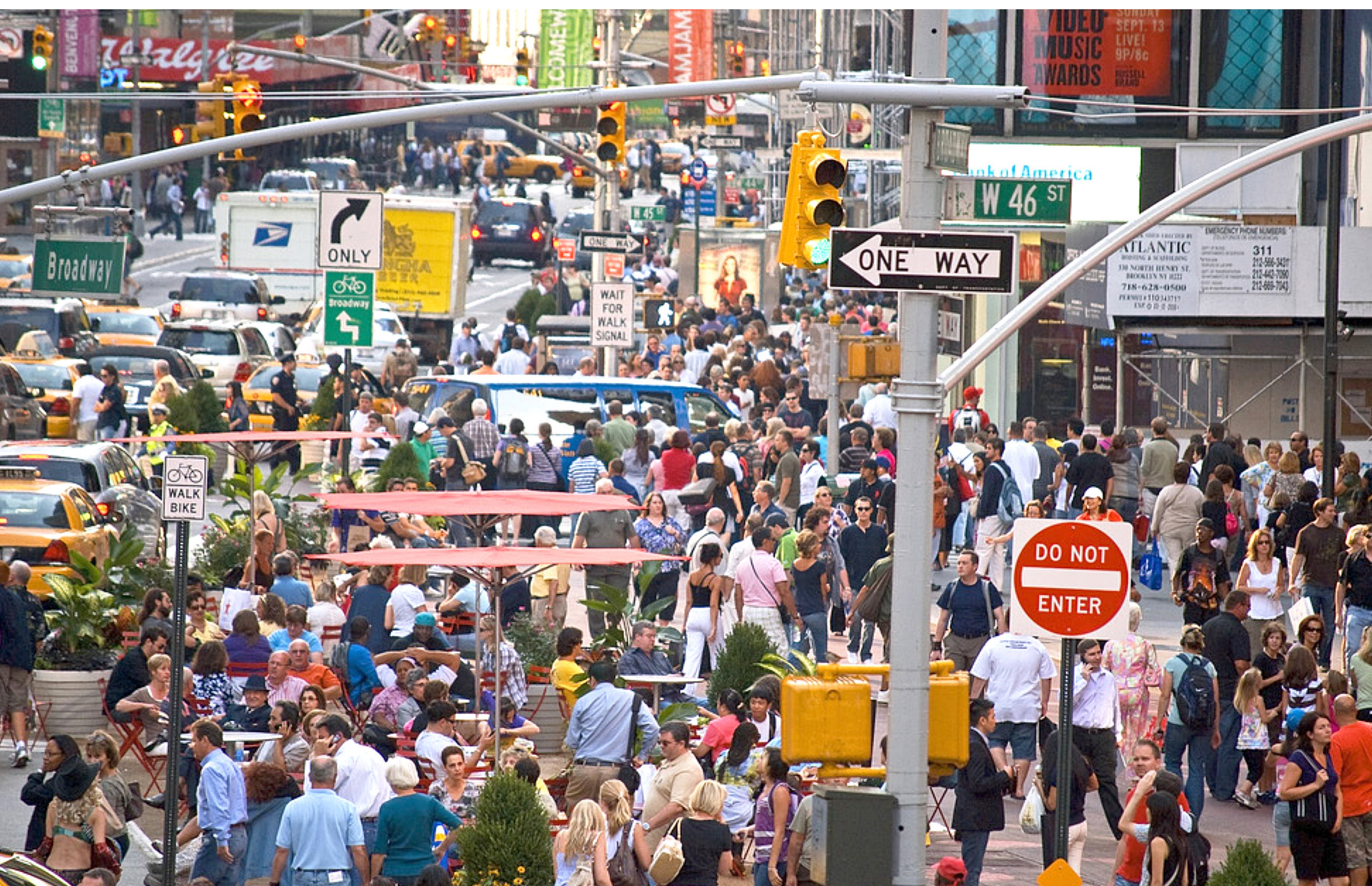
NGLC MyWays

Preparing Apprentice-Adults for Life after High School

Report 5 of the MyWays Student Success Series



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for Next Generation Learning Challenges

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.

Report 1: **Opportunity, Work, and the Wayfinding Decade**

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Part B: Broader, Deeper Competencies for Student Success

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

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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 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.

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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[1]

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)

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

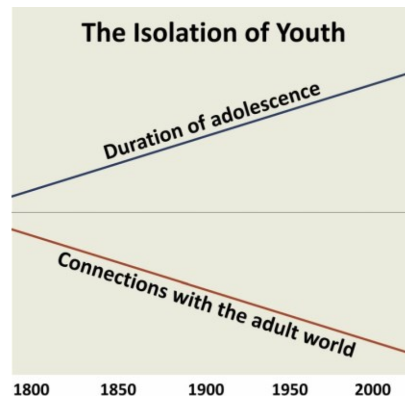
worsening the opportunity gap (Report 1). Given current education design, many on-ramping teenagers will fail to successfully merge onto the highway of productive adulthood.

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.[2] 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:

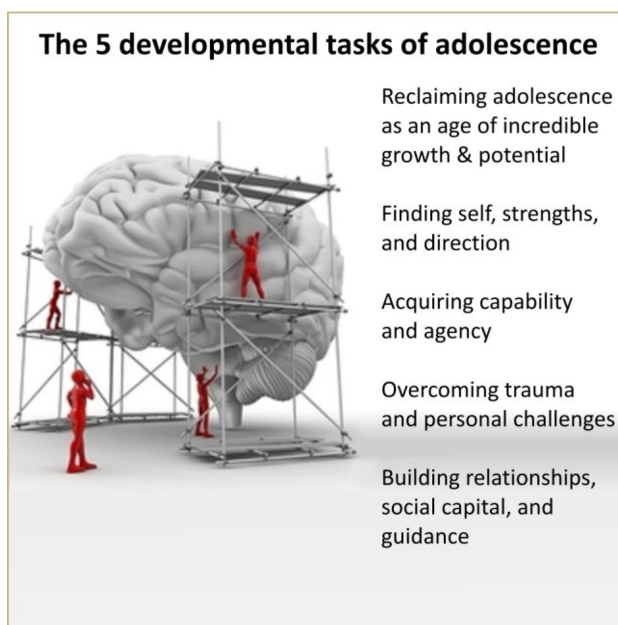
> It would seem obvious that it makes no sense to have a support system for young people defined by a single monolithic institution until they reach age eighteen and then, thereafter, the opposite: a fragmented, ill-organized, baffling array of options for further learning, training, and work.[3]

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."[4] 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."[5] 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.[6]

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[7] — 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."[8] 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."[9] 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.[10]

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

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."[11] 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)

	Downside	Upside
Increased emotional intensity	Intense emotion may rule the day, leading to impulsivity, moodiness, and extreme, sometimes unhelpful, reactivity.	Life lived with emotional intensity can be filled with energy and a sense of vital drive that give an exuberance and zest for life.
Social engagement	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.	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.
Novelty seeking	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.	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.
Creative exploration	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.	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."

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."[16]

> ***The "work" that we have assigned young people — do well in school and stay out of trouble — is not compelling to many youth.***
>
> —Robert Halpern

Unfortunately, as Siegel points out, how others see us shapes our self-image and behaviors.[17] 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.[18]

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.[19] 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.[20]….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.[21]

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.[22]

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."[23]

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.[24]

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."[25] Adults thus serve as "models of personhood," a rich and diverse palette of approaches to thinking, listening, learning, working, loving, and handling conflict.[26] 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.”[27]

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[28]

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.[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,

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.

— Mihaly Csikszentmihalyi

> 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.[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.[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. For this reason we need to take a long look at the conditions that prepare youth for a changing, uncertain future, including the experiences provided by the family, the peer group, the school, and the community as a whole. Only by a painstaking analysis of how adolescents can draw useful knowledge and habits from these varied social networks can we understand what it will take to prepare our youth for the future.[32]

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.[39] 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."[40] 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.

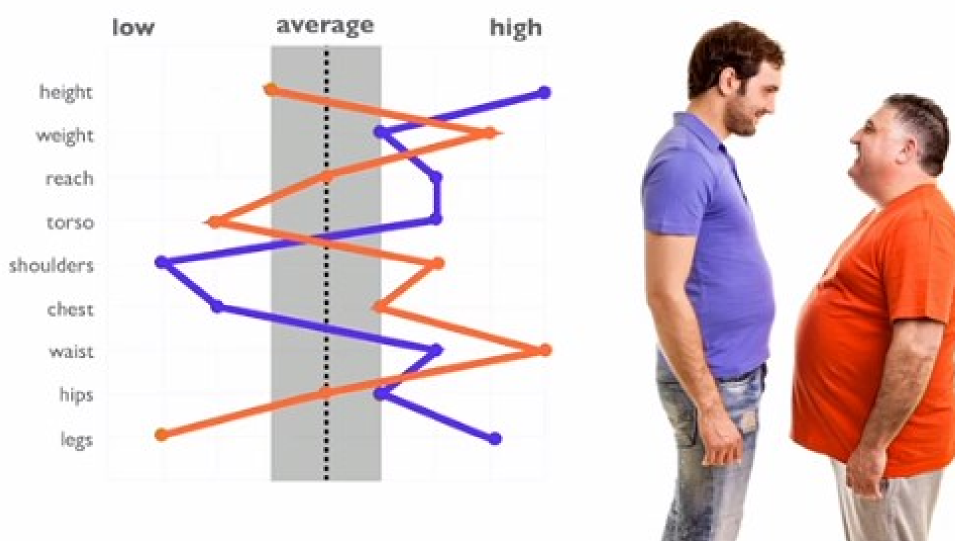
In a remarkable TED talk (19m), school principal and former teacher Chris Wejr argues that "starting with strengths" is the key to bringing out the best in students. He notes that schools are traditionally organized around a deficit-based approach that fails to ignite the special spark inside each student. 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.[41] Gallup, in fact, has taken its *StrengthsFinder* into a growing number of schools to build capacity among teachers and generate cultures focused on developing and maximizing student strengths.[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. Rose's TED talk (18m) summarizes his book, *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 *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*

Cooperation
Assertiveness
Responsibility
Empathy
Self Control

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

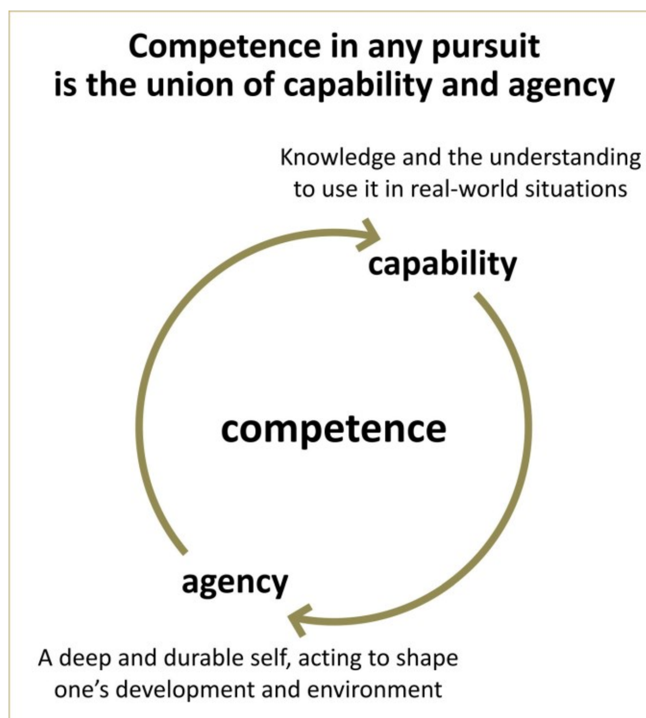
The results were remarkable. Once the class figured out that these competencies were keys to personal power, they were all in. MyWays team members had the opportunity to observe the class late in the school year, and we were struck by how purposefully students applied CARES competencies to their academic 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.[47] 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.[48]

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.[49] For

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."[53]

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,"[54] 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.[55]

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*[56]

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).[57] 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.[58] 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.[59]

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.[60]

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 then 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.[61] 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.[62]

Three Types of ACEs

Abuse
- Physical
- Emotional
- Sexual

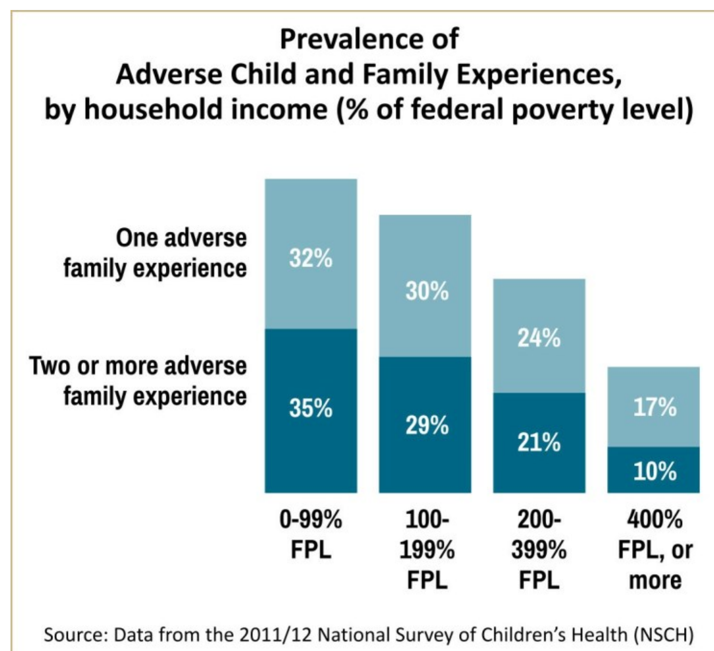
Neglect
- Physical
- Emotional

Household Dysfunction
- Mental illness
- Substance abuse
- Mother treated violently
- Incarcerated relative
- Divorce

Source: Centers for Disease Control and Prevention

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).[63] (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.[64] Nevertheless, research reported in EdWeek has found that "having a strong relationship with an influential adult can provide stability for a



Source: Data from the 2011/12 National Survey of Children's Health (NSCH)

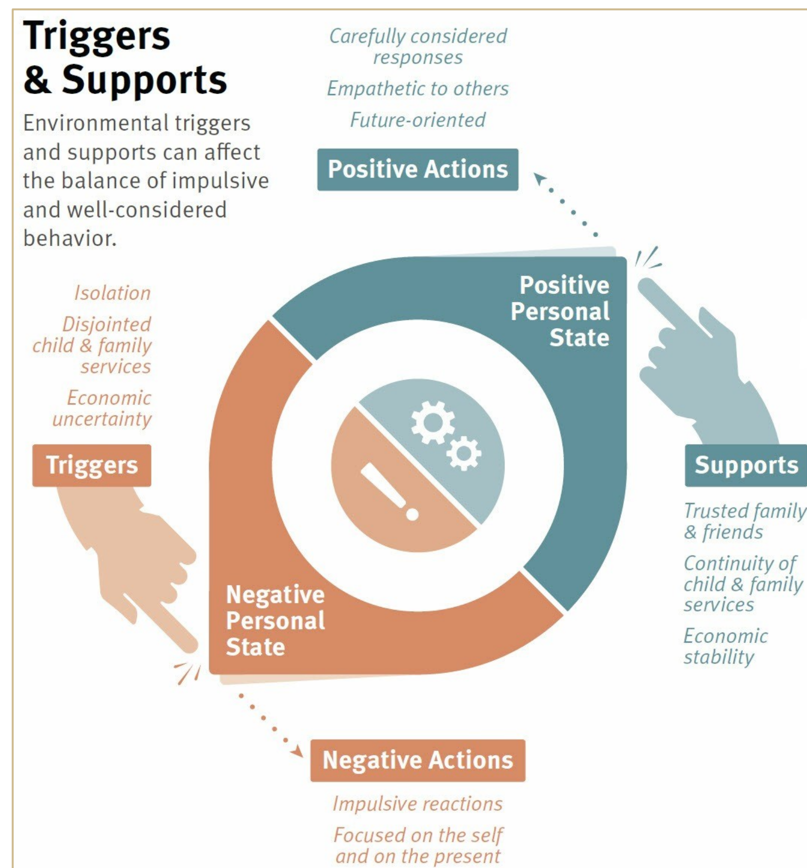
child, helping to counteract the effects of trauma on their brain."[65] Dr. Jack Shonkoff, director of Harvard's Center on the Developing Child, casts this work in developmental terms:

> 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.[66]

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[67]:

- 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
C. Smith, G. McGovern, R. Larson, B. Hillaker, and S.C. Peck, Forum for Youth Investment, 2016

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
S.M. Krauss, K.J. Pittman, and C. Johnson, Forum for Youth Investment, 2016

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*."[68]
>
> —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."[69] 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*.[70]

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.[71]

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."[72] …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.[73]

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.[74]

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.[75]

> ***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 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.[76]

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.[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.[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."[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-discoveries, 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

personal differences outside the white mainstream. In addition, the development of personal strengths is increasingly important to making ourselves marketable, helpful, and adaptable in the world of work.

3. **Acquiring capability and agency**
   Competence, in the 21st century, means "an individual becomes capable of taking what was learned in one situation and applying it to new situations (i.e. transfer)." That kind of competence requires *capability* ("knowledge and the understanding to use it in real-world situations") and *agency* ("a deep and durable self in charge of one's learning and development"). Agency includes "the belief that you have control over what happens in your life," varies by situation, and is typically challenged by disorderly, unfamiliar circumstances. Experience is key to agency: "At the root of our effectiveness is our ability to grasp the world around us and to take the measure of our own performance."

4. **Overcoming trauma and personal challenges**
   Healthy adolescent development, and a successful transition to adulthood, requires addressing the challenges of trauma, poverty, physical or health limitations, emotional or learning difficulties, abuse or neglect, addiction, language and cultural barriers, and discrimination. The extreme stress from these obstacles frequently triggers risky, disruptive behaviors in teenagers and can lead to "lifelong difficulties in learning, behavior, and both physical and mental health." Because the adolescent brain is still developing, the effectiveness of trauma treatment is often higher than in later years. Adult support is critical and a first step is adopting a trauma-informed approach.

5. **Building relationships, social capital, and guidance**
   While social connectedness is vital to psychological health in its own right, three aspects of social maturation are instrumental to apprentice-adults navigating the work/learn landscape beyond high school. The first aspect is forming adult relationships and the shift from the peer world to the adult world. The second aspect 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.

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.[80]

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)[81]

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."[82]

> **"To be of use"**
> The pitcher cries for water to carry
> and a person for work that is real.
>
> — Marge Piercy[83]

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.[84]

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.

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