

Improving College and Career Outcomes of Low-Performing High School Students

Louis S. Jacobson



MISSION STATEMENT

The Hamilton Project seeks to advance America's promise of opportunity, prosperity, and growth.

We believe that today's increasingly competitive global economy demands public policy ideas commensurate with the challenges of the 21st Century. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by fostering economic growth and broad participation in that growth, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments.

Our strategy calls for combining public investment, a secure social safety net, and fiscal discipline. In that framework, the Project puts forward innovative proposals from leading economic thinkers — based on credible evidence and experience, not ideology or doctrine — to introduce new and effective policy options into the national debate.

The Project is named after Alexander Hamilton, the nation's first Treasury Secretary, who laid the foundation for the modern American economy. Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that “prudent aids and encouragements on the part of government” are necessary to enhance and guide market forces. The guiding principles of the Project remain consistent with these views.





Improving College and Career Outcomes of Low-Performing High School Students

Louis S. Jacobson

New Horizons Economic Research; George Washington Institute of Public Policy

APRIL 2017

NOTE: This policy proposal is a proposal from the author(s). As emphasized in The Hamilton Project's original strategy paper, the Project was designed in part to provide a forum for leading thinkers across the nation to put forward innovative and potentially important economic policy ideas that share the Project's broad goals of promoting economic growth, broad-based participation in growth, and economic security. The author(s) are invited to express their own ideas in policy proposal, whether or not the Project's staff or advisory council agrees with the specific proposals. This policy proposal is offered in that spirit.

BROOKINGS

Abstract

There is growing recognition that there are many career-enhancing pathways through four-year and community colleges. Nevertheless, many students leave high school without the skills needed to complete the most demanding academic pathways, nor realistic plans for completing alternative pathways that are far more likely to lead to desirable outcomes.

This situation can be improved by high schools helping those disengaged students who are uninterested in attending college see personally meaningful connections between high school, college, and careers, and by helping non-college-ready students who are interested in attending college recognize their deficits and develop skills for college success.

There are practical and low-cost ways to help both types of students that are likely to substantially increase their college completion and entry into well-paying jobs. This paper suggests that schools help disengaged students by integrating high school and post-high school planning into middle and high school curricula, and help non-college-ready students by providing college readiness assessments to high school juniors and college-success courses to seniors needing to improve their readiness.

The paper also suggests complementing these two initiatives by having outside groups provide the individualized mentoring students need to develop plans that they are confident can be realized, as well as the support needed to overcome obstacles.

However, the lynchpin of these proposals is modifying state accountability systems to increase schools' incentives to help every student achieve his or her own college and career goals, while simultaneously reducing perverse incentives that have led to over-reliance on teaching to tests that are not aligned with students' post-high school goals.

Importantly, these proposals would substantially increase students' motivation, confidence, and information base—allowing many to improve their college readiness as measured by test scores—and help all students, whether or not they improve test scores, to select postsecondary pathways that they are likely to complete.

Table of Contents

ABSTRACT	2
CHAPTER 1. INTRODUCTION	5
CHAPTER 2. THE CHALLENGE	7
CHAPTER 3. THE PROPOSALS	8
CHAPTER 4. CONCLUSION	16
AUTHOR AND ACKNOWLEDGMENTS	17
APPENDIX	18
ENDNOTES	21
REFERENCES	22

Chapter 1. Introduction

Completion of career-enhancing postsecondary programs is the surest way to increase high school students' future earnings. Unfortunately, college completion rates have stagnated in recent decades, even though college attendance has increased steadily. The earnings of students without college credentials have also stagnated, while the college–high school wage differential has increased to levels comparable to those in the early 1900s (Goldin and Katz 2009; Gordon 2016). The 40 percent of low-performing students—those with below-B GPAs—who leave high school without the skills, motivation, and information base needed to complete college programs are particularly likely to have low college completion rates and low earnings; but the reverse is the case for the 40 percent of high-performing students—those with A or B+ GPAs (Jacobson and Mokher 2009).

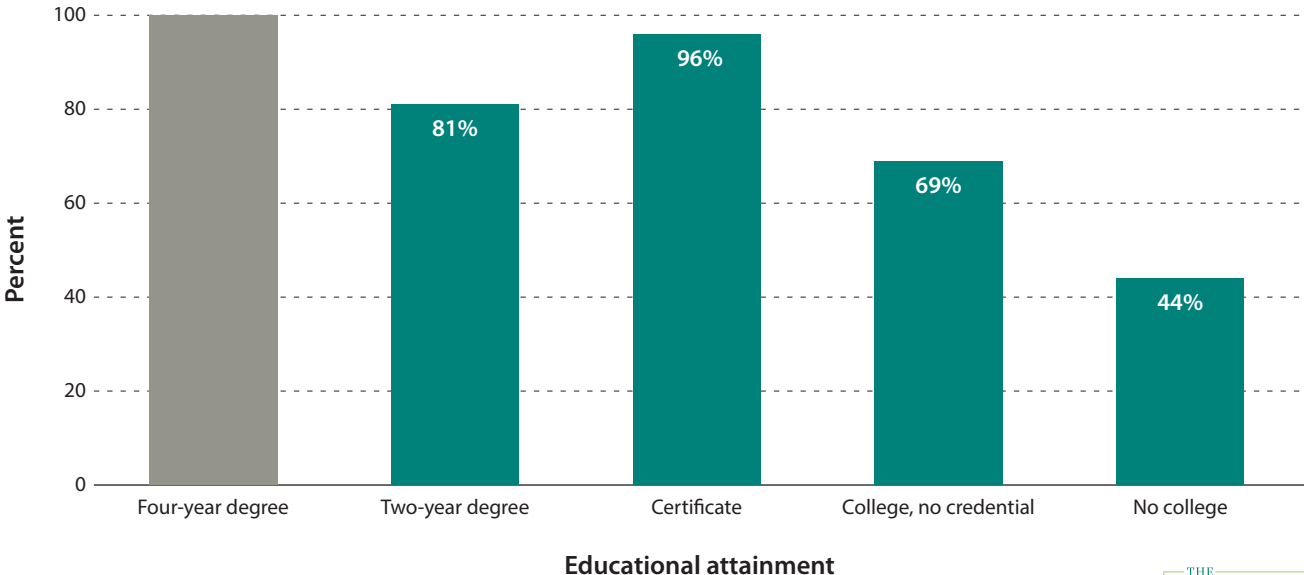
Although completion of a variety of programs at four-year, community, and career colleges leads to substantial increases in earnings, many students and much of the general public erroneously believe that only four-year college degrees

substantially increase earnings. This view ignores recent evidence that sizeable earnings gains stem from obtaining certificates and two-year degrees (Carnevale, Cheah, and Hanson 2015; Jepsen, Troske, and Coomes 2014).

Figure 1 shows that the earnings of Florida students with certificates are nearly as high as the earnings of students with four-year degrees, reflecting a concentration of certificates in high-return fields such as health care and information technology. Two-year degree holders have earnings equal to 81 percent of those of four-year degree holders. Unsurprisingly, earnings of students with no college experience are only 44 percent of the earnings of holders of four-year degrees, and the earnings of students with some college experience (but no degree) are 69 percent of four-year degree holders' earnings.¹

Students and the general public correctly recognize that academic preparation upon leaving high school has a decisive effect on postsecondary educational attainment. Figure 2 illustrates the connections between high school preparation (as measured by GPA), college attendance, and attainment of college credentials.

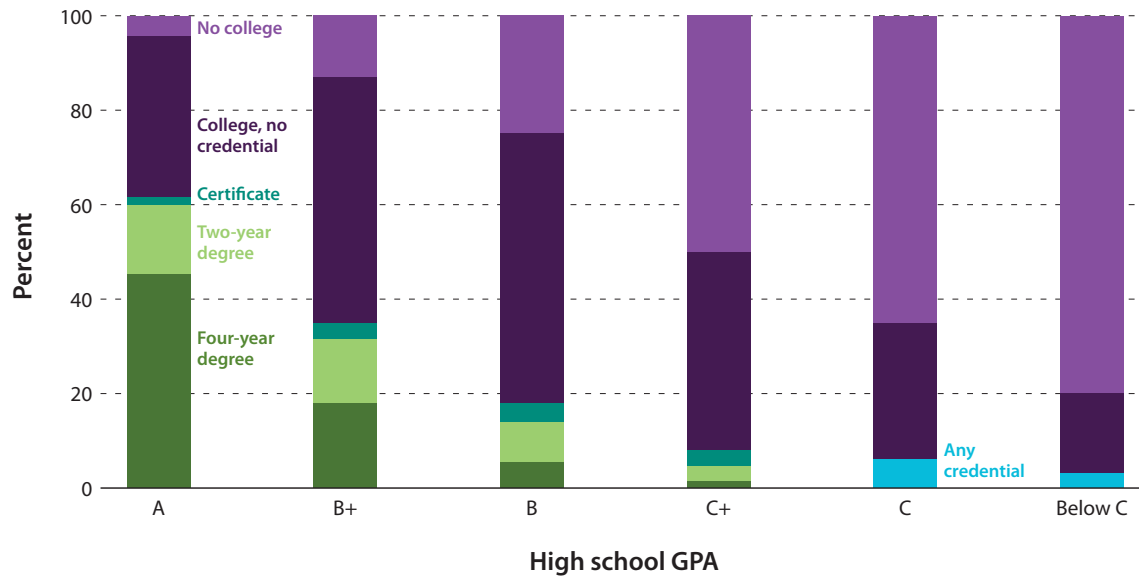
FIGURE 1.
Earnings by Educational Attainment Relative to Four-year Degree



Source: Author's calculations using Florida College and Career Readiness Initiative (FCCRI) data.
Note: Earnings are indexed to 100 for a four-year degree.

FIGURE 2.

Public College Attainment by GPA



Source: Author's calculations using Florida College and Career Readiness Initiative (FCCRI) data.

Note: Attainment rates are measured six years after students leave high school. For students with a GPA of C or below, the three types of credentials are grouped together.



The probability of attaining a college credential within six years falls dramatically as GPA declines among members of the Florida high school class of 2000.² The probability of receiving any college credential within six years of leaving high school is 61 percent for A students, 35 percent for B+ students, 18 percent for B students, and less than 8 percent for below-B students.³ Figure 2 also shows that as GPA declines, the probability of not attending college increases from just 5 percent for A students to 80 percent for below-C students.

Students and the general public may not recognize the strength of the association between high school GPA and attainment of a four-year degree. Among members of the Florida class of 2000 who obtain four-year degrees within six years of leaving high school, 68 percent are A students, 22 percent are B+ students, 7 percent are B students, and 2 percent are below-B students.

However—and perhaps surprisingly—the association between GPA and obtaining a two-year degree is much weaker, and weaker still for obtaining a certificate. Among members of the Florida public high school class of 2000 who obtain two-year degrees within six years of leaving high school, 40 percent are A students, 30 percent are B+ students, 21 percent are B students, and 10 percent are below-B students. Among those who obtain certificates within six years of leaving high school, 14 percent are A students, 22 percent are B+ students, 29 percent are B students, 17 percent are C+ students, and 19 percent are below-C+ students.

These associations imply that without having an A GPA or a GPA close to A it would be difficult to obtain a four-year degree. However, students with a B or better GPA have a reasonable chance of obtaining two-year degrees, and all students, regardless of GPA, have a reasonable chance of obtaining certificates.

Thus, even though the probability of not attending college and the probability of leaving college without any credential rise dramatically as GPA declines, if more below-B students were aware that they could obtain high-return two-year degrees, more would do so. Similarly, if more below-C students were aware that they could obtain high-return certificates, more would do so.

Better information would lead to increases in students' attainment of two-year degrees and certificates. Some evidence in support of this proposition includes statistics indicating that about 90 percent of community college students intend to obtain credentials, while only 40 percent in fact obtain credentials (Hoachlander, Sikora, and Horn 2003). The key conclusion underlying the proposals presented here is that there are at least three postsecondary pathways to enhancing earnings:

- Four-year degrees, a widely recognized pathway that is highly viable for A (or close to A) students;
- Two-year degrees and certificates, a somewhat underrated pathway that is viable for students with GPAs of B or above; and
- Certificates, an often overlooked pathway that is viable for all students regardless of GPA.

Chapter 2. The Challenge

This proposal aims to increase low-performing students' completion of career-enhancing postsecondary programs by raising their college readiness and motivation, as well as by providing information they need to identify pathways that meet their interests and are likely to be completed, even if they do not have the GPAs and test scores typically associated with attainment of a four-year degree. Many low-performing students fail to obtain career-enhancing postsecondary credentials, and, if they attend college, are burdened by unmanageable student loan debt.

To understand why the proposals presented in the next section are likely to achieve their aims, it is essential to appreciate what differentiates high-performing from low-performing students, and how low performers can be set up for college and career success. The most obvious difference is that upon high school entrance high performers possess strong academic reading and reasoning skills as well as the executive functioning skills required to follow instructions and organize their time, and the motivation to complete rigorous college programs. By contrast, low performers lack basic hard and soft skills, are often disengaged from school, and are often uninterested in building the new skills they need to complete postsecondary programs leading to well-paying jobs.

Because these differences are jointly determined by families, students, communities, and school systems, weakness in any one of these elements reduces educational attainment. Since parents play a particularly critical role because of the time and energy they contribute to their children, lack of parental support makes it much more difficult for students, communities, and school systems to contribute to positive outcomes (Stull 2013). Thus, public high schools perform well for students who are motivated to excel and who receive support from parents and communities. But high schools do not perform nearly as well when dealing with students who lack motivation and external support.

This dynamic is compounded by the very powerful incentives high schools have to meet the needs of high performers. These incentives stem from parents of high-performing students closely monitoring their children's schools and working with their children outside of school, and when performance is deemed inadequate, sending their children to private schools

or relocating to higher-performing districts (Figlio and Lucas 2002). As a result, political and financial support is heavily contingent on meeting these parents' expectations.

In contrast, incentives to serve low-performing students well largely stem from the actions of policy makers and stakeholders. In particular, the No Child Left Behind Act (NCLB) of 2001 had a large effect on high schools' incentives to serve low-performing students by requiring states to develop and administer tests and set standards for judging students proficient, primarily in math and reading. It also required monitoring the performance of individual subgroups based on ethnicity and family income and taking remedial action when schools are found to be consistently making inadequate yearly progress.

NCLB had small positive effects on high-performing students, who had no trouble testing proficient and continued to complete demanding college-prep programs that included honors, Advanced Placement, and dual enrollment classes. In contrast, NCLB had profound effects on low-performing students who had difficulty testing proficient and passing high school exit exams. More class time was given to developing the skills required to pass tests through changes in the curriculum of regular classes and requiring students to take remedial courses (Dee and Jacob 2010).

Since the early 2000s, the high school graduation rate increased, but college completion rates did not increase to the same extent (Kena et al. 2016; Snyder, de Brey, and Dillow 2016). Potential reasons include: (a) students being able to test proficient and get graduate without becoming college ready; (b) schools devoting relatively little attention to ensuring that students testing just above proficient become college ready; and (c) schools teaching to the test. This focus on exams was paired with a failure to engage student interest, motivate students to become better prepared for college and careers, and provide a knowledge base of viable pathways to well-paying jobs.

Fortunately, a great deal was learned from the experience with NCLB's test-based accountability systems that led to major improvements in the incentives to help students succeed in college and careers. Some major improvements were implemented under NCLB and several others were incorporated into NCLB's successor, the Every Student Succeed Act (ESSA) of 2015.

Chapter 3. The Proposal

To better serve all high school students, but especially low-performing students, I propose changes to state policy and school practices to increase completion of high-return college programs. At the policy level, state accountability systems would be modified to increase schools' incentives to help students who currently are low-performing to complete career-enhancing college programs. This would be accomplished by augmenting current accountability systems with measures strongly associated with college and career success and setting attainable standards for each student, as several states are already doing. At the level of school practices, I propose: (1) integrating planning into middle and high school curricula to help every student, especially those who are low-performing and disengaged, recognize that there are personally meaningful connections between high school, college, and careers; (2) providing an accurate assessment of college readiness to juniors, and offering college success courses to seniors who need additional preparation to realize their individual goals, and (3) providing mentoring to students to help them overcome impediments and develop realistic plans that they are confident will be realized.

These proposals are largely based on what my colleagues and I learned from a five-year study of a statewide program designed to increase the college readiness of low-performing Florida students, helping them avoid taking development courses if they attend college (Mokher and Jacobson 2014). The proposals focus on overcoming what students and teachers indicated as the three interrelated barriers to college and career success:

1. Being disengaged from school because students felt that they would be unable to acquire skills leading to success in college and careers before leaving high school;
2. Lacking accurate information about the full range of pathways to college and career success, especially those open to students who are low-performing;
3. Lacking information about what skills are needed to successfully pursue various pathways, the extent they have (or do not have) those skills, and the courses they should take to build those skills.

MODIFY ACCOUNTABILITY SYSTEMS TO CREATE INCENTIVES TO BETTER PREPARE EVERY STUDENT FOR COLLEGE AND CAREERS

Today, K–12 accountability systems largely reflect the goals and requirements set by NCLB. The primary goal of NCLB was to improve the academic performance of low-performing students so that they could ultimately obtain a high school diploma. ESSA, the successor to NCLB, has broadened the goal beyond obtaining a diploma to having the skills needed for success in college and careers. Box 1 describes ESSA's new requirement to integrate indicators of "success in college and careers" into accountability systems.

An accountability system capable of encouraging high school and college completion as well as career success requires:

- Measures that are strongly associated with reaching these goals;
- Attainable standards that accurately reflect the contribution of schools to students' success, both overall and for individual subgroups; and
- Ways to reward high performance and correct low performance.

NCLB required that states have accountability systems to assess student and school performance levels that almost exclusively relied on tests of academic performance. Most of the tests used were capable of assessing what students learned in a given year and how their level of learning would affect subsequent progress. In addition, test scores were correlated with receipt of academic college degrees. However, the tests did not:

1. Capture the probability that students would complete career-enhancing pathways that are not strongly associated with academic performance in high school, such as career-oriented certificates.
2. Provide information about academic and non-academic shortcomings that lead to low scores such as lack of engagement, grit, and motivation.

An excellent way to broaden the assessment of students' prospects for completing college programs or for otherwise qualifying for high-return jobs would be to incorporate direct

measures of college and career outcomes into accountability systems. Direct measures are ideal because they provide incentives for schools to pursue any strategy that improves students' later-life outcomes. The best direct measures are completion of college credentials and the level of subsequent earnings, but these measures cannot be accurately obtained until students are in their early thirties. Second-best measures are short-term indicators that are highly correlated with these long-term outcomes. One such measure is completion of three for-credit high-return college courses within a year of high school graduation; another is the acquisition of a job in a high-demand field with solid earnings-growth potential.

Outcome-based measures are particularly useful because they capture a range of academic and non-academic skills, plus knowledge related to selecting appropriate pathways and overcoming impediments, while tests mainly capture academic skills needed for four-year degrees. These differences are especially important for low-performing students entering community colleges who need a lot of information to successfully navigate these colleges' diverse programs, which require a wide range of academic and non-academic skills.

It is therefore important that outcome-based accountability would give schools credit for providing students with information that aids their planning and skill development. This information could include details of postsecondary options, the characteristics of jobs that they could expect to obtain after completing different programs, what to expect in college, and how to get help in the event of difficulties.⁴ As a result, outcome-based systems would give appropriate credit to high schools' actions that have large positive effects on college and career outcomes, even if they have small effects on test scores.

Notably, over the past 10 years investments in State Longitudinal Data Systems (SLDS) now make it possible to produce a wide range of highly relevant measures (NCES n.d.). Several states including California, Florida, and Kentucky have operational systems based on use of high school and college transcripts linked to unemployment insurance wage records available in their SLDS. These data can be used to provide feedback to high schools, students, and the general public about how students fare in college and careers. Furthermore, several states including Ohio and Tennessee have plans for incorporating SLDS-based measures into state accountability systems.

More information about states' efforts to improve accountability systems is available in "Destination Known: Valuing College AND Career Readiness in State Accountability Systems," issued by the Council of Chief State School Officers and the Education Strategy Group. An important element of this report is its discussion of the merits of rating high school students' progress towards post-high school credentials based on students achieving three levels

of success: (1) a "fundamental" level related to completing a college-and-career course of study; (2) an "advanced" level related to completing high school programs that increase students' chances of avoiding remedial courses in college and completing college programs; and (3) an "exceptional" level related to completing for-credit college courses while still in high school.

Producing these measures requires finding associations between a variety of SLDS-based indicators of college and career outcomes, scores on relevant tests, and completion of specific sets of high school programs. The key advantage of using multiple standards is that it would give schools credit for helping students be able to: meet high school graduation requirements, obtain career-oriented certificates, complete for-credit college courses without remediation and get two-year degrees, and complete rigorous college courses and obtain four-year degrees. By contrast, NCLB primarily held schools accountable for meeting a single proficiency standard, which had the effect of focusing improvement efforts on students testing just below a single cut-score, while giving little attention to students far below the cut-score or above the cut-score.

Another element of an effective accountability system is giving appropriate credit for helping students move towards their stated goals. Because high schools differ with respect to the preparation of entering students, it makes sense to rate high schools on the basis of their students' improvement, and not simply their level of performance.

One key technical challenge is creating growth standards that differentiate schools with similar student populations that are making about as much progress as is feasible from those that are not coming close to meeting a high, but attainable, standard. Such standards create powerful incentives for schools performing far below their peers to improve their performance as well as give appropriate credit for schools that are doing relatively well.

Importantly, NCLB created major problems by using a growth standard that required all students to reach proficiency by 2014—a highly desirable, but infeasible goal. As a result, many schools with high proportions of entering students far below proficiency were considered to be failing schools, even though they were doing about as well as could reasonably be expected in boosting proficiency. This undue pressure on administrators and teachers created strong incentives for able staff to leave these schools and take jobs at schools where meeting performance standards was easier to achieve.

A second technical challenge is creating measures that track performance improvement of individual students as they progress through high school. Outcome-based measures cannot be used for this purpose because they assess a given

BOX 1.

Accountability Measures for High Schools under the Every Student Succeeds Act

Under the 2015 federal education law, the Every Student Succeeds Act (ESSA), state accountability systems will conduct annual measurements along five dimensions to assess progress toward the state's long-term educational goals and to identify the state's lowest-performing schools. Under ESSA states are required to hold high schools accountable for interim and long-term progress along the following dimensions, overall and for each subgroup:

1. **Academic Achievement.** High schools are held accountable for English language arts and math achievement measured in an annual assessment. States have the option to include growth scores in addition to proficiency scores for high schools.
2. **Graduation Rates.** States are required to transparently measure four-year adjusted cohort graduation rates among schools for accountability purposes. States also have the discretion to employ extended-year adjusted cohort graduation rates. High schools are held accountable for improvements. Separately from the broader accountability system, states must also identify all high schools that fail to graduate more than one third of their students.
3. **English Language Proficiency.** High schools are required to measure and make progress in English language proficiency among their students.
4. **Student Growth.** Elementary and middle schools are required to measure growth in student achievement or another indicator that is valid, reliable, and statewide.
5. **School Quality and Student Success.** States are required to broaden school accountability and hold high schools accountable for improvement in measures of student or educator engagement, student access to and completion of advanced coursework or postsecondary readiness, school climate and safety, or another indicator that measures school quality and student success.

student only after leaving high school. Instead, it is necessary to use short-run measures that are highly correlated with college and career outcomes. The best way to ensure accurate assessment is to use the same test to measure progress in meeting several different levels of college and career readiness for students in grades 9 through 12. A computerized adaptive test—such as Florida's community college placement test—would have the major advantage of focusing its questions so that they accurately measure a student's level of performance by not asking questions that are too easy or too hard. Other tests that provide solid indicators of success in obtaining academic college degrees include the SAT and ACT. There are also some tests, such as the College Board's ACCUPLACER, that help identify critical skills deficiencies, in addition to measuring overall college readiness. In addition, some tests accurately predict success in career-oriented programs, including the Armed Services Vocational Aptitude Battery (ASVAB) and the Career Pathway Assessment System (cPass), which is being developed by Kansas and Colorado.

Finally, I note that it is desirable to use measures that are not easily manipulated by schools and districts. For example, increasing GPAs would be highly beneficial as long as high standards for assigning grades were set and maintained. But if GPAs became a performance measure, schools would have perverse incentives to lower standards to meet growth and level criteria. Indeed, a key value of using post-high school

outcomes as performance indicators is that those measures are outside of the direct control of high schools and districts. Using these external measures would diminish incentives to raise GPAs by lowering standards because doing so would reduce the chances graduates would complete career-enhancing college programs.

Because states have limited resources available to address these technical problems—and given that the difficulties are similar across the nation—I propose the creation of national or regional institutions that can provide technical support to states. This would include general information about what constitutes high-quality accountability systems, how close individual state systems come to the ideal, and how problems can be overcome. Funding for these institutions would be supplied through grants from foundations and the federal government, as well as from state contributions to groups such as the National Governors Association. By pooling resources and attracting additional, urgently needed funds, these institutions would facilitate the efficient administration of a comprehensive, effective accountability system.

IMPLEMENT SCHOOL PRACTICES THAT IMPROVE COLLEGE AND CAREER OUTCOMES OF LOWER PERFORMING STUDENTS

Improving accountability systems is essential to giving schools and districts strong incentives to adopt a range of

practices that would improve college and career outcomes. In particular, it would create incentives for schools to increase student engagement, help students develop plans that they are confident will lead to success in college and careers, and help students develop academic and non-academic skills required to realize those plans.

In this subsection I discuss three specific proposals based on information obtained from extensive interviews and surveys of low-performing Florida students, their high school teachers, and their community college instructors. (See box 2 and appendix.)

Of central importance is preventing or reducing disengagement from high school by improving students' motivation and self-confidence. This can be done by helping them see personally meaningful connections between high school, college, and careers—and doing so early enough that students have time to develop a viable plan and obtain the skills needed for postsecondary success. Importantly, each of the following practices requires only small investments.

1. Integrate high school and postsecondary planning into the curricula of all middle and high schools;
2. Assess college readiness and provide college success courses to students who are not college ready; and
3. Enlist the help of outside groups in providing mentoring designed to improve plans, confidence, and build relevant skills.

1. Integrate high school and postsecondary planning into the curricula of all middle and high schools.

Increasing student engagement is critical to improving postsecondary outcomes. An excellent way to increase engagement is to integrate planning-for-the-future units into existing middle and high school English courses to help students see personally meaningful connections between high school, college, and careers. This is a topic almost totally neglected in existing curricula, but the one pointed to by Florida students and teachers as the most critical missing component of current curricula and the one most likely to substantially increase student engagement and interest in attending college. Moreover, it would be inexpensive to introduce—and highly complementary with—the goals of current curricula.

Importantly, the goal of the planning units would be to raise the aspirations of disengaged, low-performing students uninterested in attending college without lowering the aspirations of other students. The key to doing this is to provide accurate information about the prospects for completing the full range of career-enhancing college programs. As with any major investment, basing decisions on highly inflated views of the prospects of success can only lead to poor outcomes, while

having realistic views of risks and rewards is likely to lead to desirable outcomes.

A major value of planning-for-the-future units would be filling information gaps about education and career pathways for students whose parents did not complete college programs and who would be among the first in their family to attend college. Such planning is especially important for low-performing students among this group because they often believe—erroneously—that college is a viable option only for high-performing students, and because they often are not aware of the value of high-return certificate programs. A planning unit also could improve awareness of student financial aid that makes community college affordable for the vast majority of recent high school graduates, in addition to helping students fill out the required aid forms. High-performing students would also benefit from the planning units because it would help them select specific colleges and majors, obtain financial aid, and select high school and dual enrollment courses that would help them realize their plans.

Specifically, the planning-for-the-future units would ask students to:

- Describe their high school, college, and career interests; how those interests were developed; and their access to mentors and other sources of support and information.
- Develop a set of concrete plans that they are confident can be realized by requiring them to research:
 - The specific education and training pathways that would be attractive to them and could realistically lead to successful careers;
 - The hard skills, soft skills, and other attributes required for them to successfully follow those pathways;
 - The extent to which they have these attributes, and how they would gain skills they lack;
 - The person-specific and school-specific impediments that they need to overcome to follow those pathways, along with strategies for overcoming those impediments;
 - The cost of these pathways and how students could cover those costs; and
 - The earnings and nonpecuniary rewards as well as the nature of the work they would expect from following pathways of interest.
- Present their plans in class and discuss these plans with their fellow students to gain an appreciation for the range of careers, pathways, and impediments students face, as well as how selection of pathways varies depending on students' GPAs and other attributes.

BOX 2.

Lessons from the Florida College and Career Readiness Initiative

The Florida College and Career Readiness Initiative (FCCRI) is a statewide program designed to improve the academic preparation of a large group of middle-skill Florida high school students. The target population consists of students who are likely to both attend community college and require developmental education courses at the outset of their postsecondary careers. FCCRI generated sizeable reductions in the need for subsequent developmental education by requiring juniors who tested in the middle range on the high school exit exam to take the community college placement exam and then requiring seniors testing below college ready to complete college readiness courses.

As part of the FCCRI study, students wrote essays detailing their postsecondary plans and their beliefs about how their high schools could have better supported those plans (see appendix). These essays indicated that students valued more-individualized information about their postsecondary alternatives and the labor market returns to those alternatives. They also valued mentorship and better communication about which postsecondary options would be best for them and which high schools courses and grades were needed to realize these goals.

- Read and reflect on literature about people who overcame impediments and managed to successfully complete high school and college programs and embark on fulfilling careers.
- Revise their plans in light of the feedback they receive and reassess their degree of confidence.

Ideally, these units would start in the first year of middle school to help students avoid the sharp decline in engagement and performance that often accompanies the transition from elementary to middle school (Gutman and Midgley 2000). Introducing the units early would also make students aware of options to attend specialized high schools that could develop their interests in academic subjects such as STEM (science, technology, engineering, and mathematics), music, and art, as well as vocational-technical subjects leading to careers in health care, computers, safety and security, building trades, and other occupations.

Of course, middle school students might not have well-formed interests and career objectives or even much interest in thinking about their futures. But in each successive year the students could improve their plans as they gain interest, maturity, and experience. Importantly, schools could arrange visits from college recruiters and student visits to colleges. In addition, 12th graders could work with students in lower grades to explain how they benefitted from the planning and why it is worthwhile for the younger students to identify viable options.

These planning units would provide an opportunity for students, teachers, and mentors to work together to identify practical ways of improving career prospects. They would demonstrate to students that, even if they have not excelled academically, there are many pathways open to them that would substantially improve their earnings.

Some of the planning unit tasks listed above were greeted with enthusiasm by teachers and students in the FCCRI study (discussed in appendix). In particular, teachers noted that asking students to write essays discussing their plans, how they were formed, and how schools could be of more help was one of the few assignments that stimulated the interest of disengaged students. Students appreciated the personal attention the project provided and the opportunity to air their views about what their schools could have done to be of more help in shaping plans.

Additional evidence supporting the value of improved planning comes from surveys of student expectations, which indicate that students substantially lower their expectation of receiving a college credential as they progress through high school. About 72 percent of sophomores state that they expect to receive a college credential, with this rate falling to 66 percent for seniors (NCES 2002).

In addition, overestimation of the chances of obtaining college credentials could largely stem from state accountability systems labeling students as “proficient” when they are likely to obtain high school diplomas, even if they are unlikely to be college ready at graduation. About 65 percent of states set proficiency standards well below those of the National Assessment of Student Progress (NAEP), which identifies students as proficient who are on-track to be able to do college-level work upon leaving high school (U.S. Chamber of Commerce Foundation 2014). Indeed, Florida created the FCCRI precisely because it believed that many of the 53 percent of community college students testing below college ready in math and the 37 percent testing below college ready in reading failed to recognize that the high school exit exam could be passed with only 10th grade skills, while college readiness required 12th grade skills (Park and Scheuch n.d.).

Finally, it is important to evaluate the effectiveness of planning units. This allows for assessment of which elements lead to the greatest success in altering plans and outcomes for high school, college, and careers for low-performing, disengaged students, while also identifying impediments to effective implementation.

2. *Provide college-success courses to students who are not college ready.*

Another best practice involves assessing the college readiness and college interest of high school juniors, and then using this information to provide college-success courses to seniors who are not college ready. This proposal is motivated by the evidence that the FCCRI substantially reduced the need for college developmental education courses among students who were interested in attending college, but did not score college-ready on the community college placement exam (Mokher and Jacobson 2014).

The assessment component could be based on use of a community college placement test, if such a test is used for course placement, as was the case in Florida. But an even more effective assessment of prospects for completing career-enhancing college programs could be based on a combination of interest inventories, GPA, teacher recommendations, and tests that are already in use.

An excellent way to provide these assessments to students, parents, and mentors would be to create individualized

booklets with optimistic, middle-of-the-road, and pessimistic estimates of the probability of each of five outcomes: (1) not attending college; (2) attending college, but leaving college with no credential; (3) obtaining a certificate; (4) obtaining a two-year degree; and (5) obtaining a four-year degree.

These booklets would contain information similar to that used by students and their advisors to predict acceptance at selective colleges based on ACT or SAT scores, GPAs, class ranks, and teacher recommendations, but would be extended to predict success at non-selective colleges as well as receipt of a variety of academic and career credentials. Having a much wider range of estimates for low-performing students is particularly valuable because their prospects of completing programs at selective colleges are much lower than at community colleges.

If the planning units were put in place, these booklets would provide authoritative indicators of success that could be used by both low- and high-performing students to develop post-high school plans. The booklets would be especially valuable if they included outcome probabilities for a given student's areas of interest, and were provided to students each year. But even without the planning units, these booklets would be valuable to juniors who have reached a point where they are very concerned about their futures, could still take courses to improve their prospects for completing career-enhancing college programs, and might otherwise not take challenging courses because they incorrectly believe that they are college ready.

BOX 3.

Insights from the Junior Reserve Officer Training Corps

The Junior Reserve Officer Training Corps (JROTC) is a large program enrolling roughly 525,000 students per year in 3,400 U.S. high schools. About half of the enrollment is in Army units, one fourth is in Air Force units, and one fourth is in Navy and Marine Corps units. Most instructors are retired from the sponsoring branch of the armed forces, although active duty officers are sometimes assigned as instructors.

JROTC was designed to meet the developmental needs of youths that include physical activity, competence and achievement, self-definition, positive social interactions with peers and adults, a sense of structure and clear limits, and meaningful participation in extracurricular activities. Participant surveys indicate that JROTC largely succeeds in reaching each of the major goals, in addition to helping cadets develop plans for the future.

Importantly, JROTC funds several adults in each school to help students:

- Develop a sense of belonging and personal efficacy by offering leadership opportunities, team building activities, social events, and field trips;
- Identify their personal strengths and weaknesses; and
- Learn about a wide range of career opportunities and develop career-relevant skills.

In our FCCRI study no other extracurricular activity was reported to offer the same comprehensive set of benefits as JROTC, but some, such as sports teams and band, offered a sense of belonging and an opportunity to work closely with adults who are interested in students' personal growth—factors that play a key role in giving students direction and confidence.

BOX 4.

Lessons from Career Academies

Career academies create “a school within a school” where a team of teachers and students forms a distinct unit that remains together throughout high school. Program elements include block scheduling of classes, common planning time for teachers, occupational focus, integrated academic and vocational curricula, reduced student-teacher ratios, and internships with business partners. Currently, career academies are in about 8,000 U.S. high schools, and serve a disproportionately disadvantaged population.

A major randomized controlled trial indicated that career academies do not have positive impacts on high school graduation rates or test scores, but are highly effective in raising the earnings of at-risk minority males (Kemple and Willner 2008). Another study compared the effects of a career academy that included mandatory participation in JROTC to the effects of participation in regular (non-career academy) high schools with and without JROTC (Elliott, Hanser, and Gilroy 2001). After adjusting for demographic characteristics, students in regular high schools who did not participate in JROTC or career academies were absent 25 percent of an average school year. This was reduced to 20 percent for JROTC participants, and 15 percent for participants in the combined JROTC-career academy program, with much of the difference driven by reductions in students dropping out. The study also indicated that reductions in absenteeism accounted for some improvement in GPAs.

It would be advisable to require students who have poor prospects of completing any career-enhancing college program to take a college success course. This could build new skills as well as refresh previously mastered skills not used recently. The FCCRI study indicated that the success courses are especially valuable in helping students avoid being placed in developmental education courses for math, a subject where 53 percent of community college students are rated as not-college-ready. However, consideration should be given to having several versions of the success courses geared to students whose skills are close to or far from college ready and who are interested or uninterested in attending college.

The success courses could easily build on the developmental education courses currently being taught at local community colleges. We found that Florida community colleges had created high-quality course materials to make it easy for adjunct faculty to teach those courses. Moreover, these colleges were prepared to share the material with high schools and districts. In addition, Florida and 39 other states are already offering college transition courses in high schools (Barnett et al. 2013), and organizations such as the Southern Regional Education Board (SREB) have developed free college-readiness courses in math and English that are being implemented in several states (Southern Regional Education Board n.d.).

3. Enlist the help of outside groups in developing mentoring and planning opportunities.

High schools are highly successful in helping students who are high-performing upon entrance enroll in and complete college programs, but are not nearly as successful with students who are low-performing upon entrance. In order to be of more help to low-performing students, high schools need to find ways to engage them.

Planning-for-the-future units are one response to this problem. But such units depend on students using the same academic skills employed in other courses to identify personally meaningful connections between high school, college, and careers, as well as to develop viable plans to reach their goals. To complement this “academic” approach it would be useful to introduce programs that alter students’ views of themselves and their capabilities.

Thus, I propose taking a much more holistic approach, which places preparation for careers on an equal footing with preparing for college, building confidence, and providing personalized help in setting goals. Programs of this sort include JROTC and Career Academies, described in boxes 3 and 4, respectively, which are both large programs that have proven to be effective in helping low-performing, disengaged students realize career objectives. However, these programs are more costly than traditional high school programs because they incorporate multiple elements including field trips, internships, and mentoring. About 60 percent of the cost of JROTC is covered by the Department of Defense, leaving about \$450 per student to be covered by school districts. Career Academies cost about \$1,000 more per student than the regular set of courses students would be taking. Increasing the availability of JROTC and Career Academies would be desirable, but would require significant increases in school expenditures.

The low-cost holistic approach proposed here would be to expand mentoring by enlisting the aid of outside groups. This approach would strongly complement the proposed planning units by further improving students’ information, plans for the future, and especially, their confidence.

Without small group or one-on-one guidance many students are likely to have difficulty developing a viable plan to improve their education and career outcomes, even if they participate in planning-for-the-future units. Thus, it is highly desirable to find a way to provide mentoring for these students. The challenge is to do this in keeping with the theme of the previous recommendations—finding ways to be smarter and more creative without requiring large additional expenditures.

There are strong reasons to believe that providing access to mentors would make a major difference. For example, the Accelerated Study in Associate Programs (ASAP) at the City University of New York (CUNY) increased receipt of AA degrees by community college students who tested below college ready from 22 percent to 40 percent (Scrivener et al. 2015). However, the cost of the program was more than \$5,000 per student per year, mainly because ASAP increased the counselor-to-student ratio by a factor of 10 and provided each participant with the opportunity to meet with the same counselor at least once a month to shape plans and deal with issues inhibiting progress.

An affordable alternative to hiring and training school staff as mentors is enlisting the aid of outside groups that are not directly funded by school systems. I therefore propose to expand an array of existing programs run by organizations that largely rely on volunteers. These include nonprofit organizations such as Big Brothers Big Sisters of America, volunteer programs at individual high schools that encourage parents and other community members to provide tutoring

and other support, colleges that encourage their students to provide community service, and even programs at high schools that involve students tutoring fellow students.

There has been considerable interest in the potential for developing programs to supplement what public schools are able to do, including reasonably large-scale programs paid for with federal and foundation funds. Unfortunately, the literature reviewing the effectiveness of these programs is not particularly encouraging (Apsler 2009; Kane 2004). In part, this is because programs rarely include an evaluation component with sufficient rigor to assess their effectiveness. Rigorous evaluation is particularly difficult because many of these programs are characterized by a great deal of student turnover. As a result, it is very hard to determine whether the small fraction of students who stay with a given program have positive outcomes that are caused by program participation. In addition, the programs are so diverse in terms of goals, methods, and participant characteristics that it is difficult to assess which approaches result in the most positive outcomes for participants with differing characteristics.

Because a number of mentoring approaches may have merit, I propose that multiple designs be evaluated in association with the planning-for-the-future units. In particular, it is worth testing a structured approach that focuses on working with students to improve the plans they develop, while also providing opportunities for the mentors to learn about the planning process from teachers and other professionals.

Chapter 4. Conclusion

Roughly half of students attending community colleges are not adequately prepared to complete earnings-enhancing programs. This is a serious problem, but evidence-based solutions exist to boost the college preparedness of all high school students.

High-performing high school students are likely to obtain four-year college degrees and obtain well-paying jobs. However, as GPA declines, the prospect of attaining college credentials or even attending college falls dramatically, as does the prospect of obtaining a well-paying job.

Feedback from teachers and students participating in a Florida college readiness program for low-performing students suggests that what differentiates these students from high-performing students is having parents who instill in their children a strong desire to obtain four-year degrees and who do what is needed to ensure that their children perform at or above grade level. This same feedback indicates that high schools do not do enough to help students who lack external motivation to see the connections between learning in high school, completing high-return college programs, and obtaining well-paying jobs.

I propose several reforms to policy and practice that do not require radical changes or large new expenditures. These proposals directly address the keys to student success in college and careers: being engaged in school, being aware of viable career-enhancing pathways and the skills needed to successfully negotiate those pathways, developing a plan to pursue pathways of interest that students are appropriately confident will lead to success, and building the skills needed to enter high-return careers in high school and college.

First, using existing data systems and analytic tools, state accountability systems would be modified to create incentives for schools to help all students succeed in college and careers. The primary way to do this would be to include measures strongly correlated with college and career outcomes, set standards so that high schools get appropriate credit for helping students reach their college and career goals, and provide rewards for superior performance while finding ways to help under-performing schools improve their performance.

I then suggest three best practices for schools to implement. The first proposal is for schools to include a planning-for-the-future unit in each student's English courses starting in middle school. This would help students develop sound plans for college, remain engaged in school, and maintain high aspirations.

The second proposal is for schools to provide a college-readiness assessment to juniors, followed by college success courses for seniors who are interested in college but not college ready. This option is informed by the success of the FCCRI, which reduced the need for students to take developmental education courses in college and increased the chances of completing for-credit courses.

The third proposal—highly valued by students and teachers who participated in the FCCRI—is to provide mentors for students (who otherwise lack the necessary support from other sources) to help develop viable plans for success in school and careers, build the motivation and confidence they need to execute their plans, and overcome obstacles when encountered.

Author

Louis S. Jacobson

*New Horizons Economic Research; George Washington
Institute of Public Policy*

Louis S. Jacobson is the President of New Horizons Economic Research. He has conducted basic research on the cost of job loss and the means to offset those losses through services provided by One-Stop Career Centers and community colleges. Jacobson recently examined how community colleges and One-Stops can work together to help workers develop career-enhancing skills, and analyzed the returns to community college training using a large Florida data base for the Bill and Melinda Gates Foundation, the Pew Charitable Trust, and the National Assessment of Career and Technical Education. He is currently extending this work to examine how workforce system services affect those returns as well as the returns to short-term training provided by for-profit training providers. He also is evaluating a statewide Florida program to increase the college readiness of high school students.

While at Westat, Jacobson was the principal investigator of a six-state evaluation of the effectiveness of public labor exchanges in a One-Stop environment and the long-term follow-up of the National JTPA Evaluation. While at the Upjohn Institute, he authored major studies of the cost of worker dislocation and observed first-hand the effectiveness of government and private activities designed to deal with loss of long-held industrial jobs. Jacobson served on the Montgomery County (Maryland) Workforce Investment Board, chairing the assessment committee. Jacobson holds a Ph.D. in economics from Northwestern University and a B.S. in economics from MIT.

Acknowledgments

Much of this paper is based on research on the Florida College and Career Readiness Initiative (FCCRI) supported by the Institute of Education Sciences (IES), U.S. Department of Education, through Grant R305E120010 to the CNA Corporation. Dr. Christine Mokher, of CNA, is the project's principal investigator and I am the co-principal investigator. Dr. Mokher provided outstanding assistance in reviewing this paper and helping ensure it is clear and accurate. Also, Professor James Rosenbaum of Northwestern University made important contributions to the FCCRI project and was very helpful in reviewing this paper. I also received excellent research assistant support in developing this paper from Kathryn Yeager, George Washington Institute of Public Policy (GWIPP), at which I am research professor. This paper represents my own views, not the views of CNA, IES, or GWIPP, and I am still responsible for any errors in this paper.

Appendix

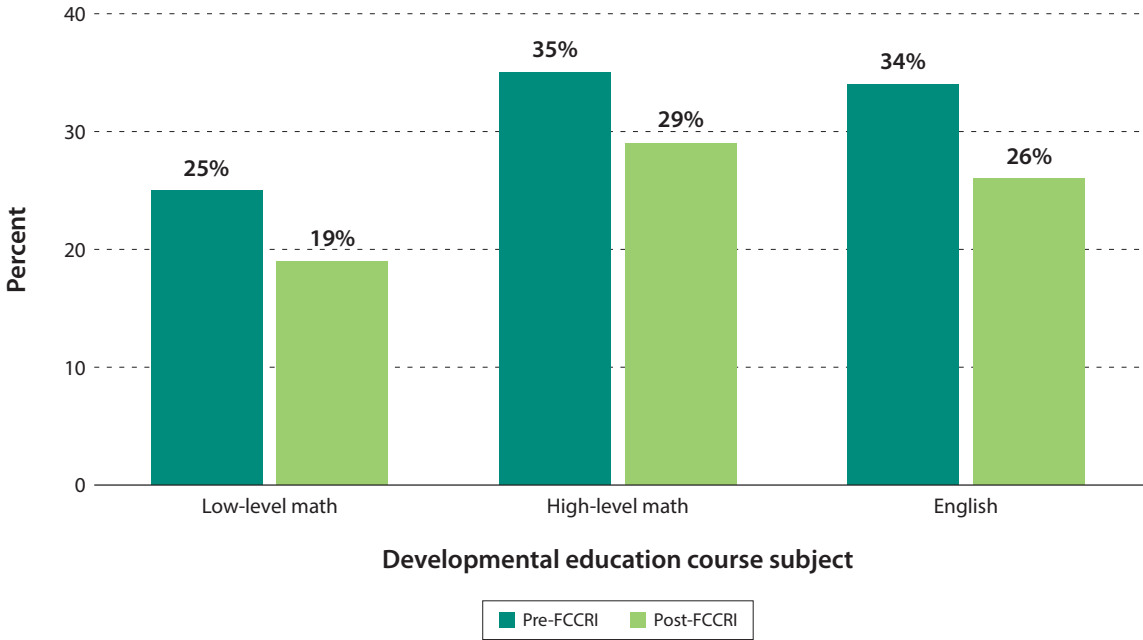
The Florida College and Career Readiness Initiative (FCCRI) is a statewide program designed to improve the academic preparation of a subset of low-performing Florida high school students—those with potential to complete career-enhancing community college programs, but who would have to begin college by taking developmental education courses.

The FCCRI required juniors testing in the middle range of Florida’s high school exit exam given in the 10th grade to take the community college placement test. Large numbers of students participated in the testing: 84 percent of juniors were targeted in math, and 57 percent were targeted in reading. Those testing below college ready were required to take college

readiness and success courses in their senior year; roughly half of the students tested took these courses.

In 2011, my colleagues and I at CNA received a five-year grant from the Institute of Educational Sciences (IES) in the U.S. Department of Education to assess the strengths and weaknesses of the initiative. One component was to use administrative data to examine the effect of the FCCRI on the need for program participants to take development education courses in college. Our initial results, presented in appendix figure 1, show that there were substantial reductions in the need to take those courses, especially among students who were in the middle of the group testing below college-ready. However, other results indicated that there was little,

APPENDIX FIGURE 1.
Percent of Midrange Students that Needed Developmental Education Courses, Before and After FCCRI Intervention



Source: Author’s calculations using Florida College and Career Readiness Initiative (FCCRI) data.
Note: The sample is students with midrange test scores on the Florida high school exit exam in 2012 who graduated in the high school class of 2014 and attended Florida community colleges in 2014–15.

if any, effect on college enrollment and it is too soon to assess credential attainment.

Extensive feedback we obtained from teachers through surveys, focus group discussions, and site visits indicated that the initiative helped students interested in attending college, but had little if any effect on the roughly half of students uninterested in attending college and disengaged from school.

High school teachers noted that they were constrained by a focus on building skills tested by the placement exam, by objectives for the courses set by the state and the curricula set by their districts, and by the challenge of increasing test scores for students interested in attending college but who tested far below college ready. Nevertheless, teachers strongly felt that a way should be found to help disengaged students identify career-enhancing pathways they could realize with modest improvement in hard and soft skills, thereby enhancing the students' motivation to pursue those pathways.

Interviews with community college developmental education instructors reinforced the views of the high school teachers. These instructors were confident that they could compensate for poor academic preparation as long as students were motivated to learn. They felt it also was important to develop soft skills and were pleased that their colleges often required taking courses designed to build those skills as a supplement to courses designed to build academic skills. However, the instructors felt that separate efforts were needed to build motivation, and this should occur while students are still in high school.

Instructors also noted that high schools could far more effectively help students become college ready by better aligning high school curricula with the basic skills needed to succeed in college—reading comprehension, critical thinking, written and oral presentations skills, and basic math skills. Holding students to high standards with respect to those skills would be valuable, they believed, even if that meant students were less able to take advanced courses and electives.

Another important element of our study was obtaining feedback from students taking college-success courses in the form of 500-word essays asking responses to the following questions:

1. What are your post-high school plans?
2. How did your high school contribute to developing those plans?
3. What could your high school have done to be of more help in developing those plans?

Virtually all students indicated that they were concerned about their futures. About half named specific colleges and fields-of-study, about one-quarter planned to enter the military,

workforce, or attend vocational schools, and one-quarter had no specific plan. But of greatest significance is that students who had knowledgeable mentors also had the most detailed and most realistic plans for the future, while those who did not have concrete plans, or were not confident that they would realize their plans, wished that they had such mentors. Some students had mentors from their families, but most depended on mentoring from their teachers, as their parents and other family members did not attend college. Unfortunately, these mentoring opportunities were in short supply.

One of the most moving essays epitomized the value of having a mentor very much along the lines of the theme of Mr. Holland's Opus. This student reported that:

"[T]he first two years of my high school career were an absolute joke. I was just a normal student, who wasn't involved in any sort of extra-curricular activities at all. This all changed the following year. After a couple weeks, [my music teacher] realized that I knew how to play my instrument and that I wasn't just some beginner. Over the course of the year, this relationship of mentor and apprentice began to develop. Now, I'm a senior and our friendship remains unscathed. ... I became motivated to join the jazz band, the advanced choir and formed a small jazz ensemble to represent the school. Because of that man, I am going to become a music teacher, because if I can change someone's life the way my teacher changed mine, then I'll have true happiness."

Perhaps the most important finding was that the vast majority of students felt that their high schools could have been much more helpful by giving them more personal attention and guidance about the connections between what they were supposed to learn in high school and the value of post-high school education and training in boosting careers, as well as giving them program options that were meaningful to them personally. The following statements typify students' views:

"But I feel like they could've [made] my high school more productive [by] hiring positive teachers, teach us more, have one-on-one time with us, find out where we are at as a student in and outside of school, give us a chance to express ourselves without judging us based on what they see, and see what is our strengths and weaknesses.

Our guidance counselors only care about making sure a student has enough credits to graduate. The way I see it a guidance counselor is supposed to ... make sure that [students] have the proper grades to attend college.

I believe high school should be more personalized. I could have focused on what I wanted to do in the future and given me classes that match in respect to my future career."

A major exception was that students at the one vocational-technical high school we visited were strongly motivated

to excel in their career courses because they could see the connection between school and life after high school. They also were strongly motivated to perform well enough in their academic courses so they would not have to forego career courses in order to repeat courses they failed or take remedial courses to pass the high school exit exam—much as high school athletes were motivated to perform well enough academically to maintain their sport’s eligibility.

Several of these essays also noted that their teachers often treated them as test-taking robots, rather than individuals, which only deepened the need for external motivation from mentors to become engaged in their classes. For example, one student noted that:

“High school could have been helpful if teachers cared enough to explain [to] you a subject because they genuinely wanted you to learn, not just for test scores. ... [I]t seems like everything and everyone is so caught up on getting a certain test score

they do not end up learning anything well enough to reach their expectations.”

The students also recognized that lack of motivation created deficits that could not be corrected in their senior year, leading to a struggle to find good jobs and complete college programs.

The bottom line is that students felt that there was too much emphasis on meeting test-based standards and not enough emphasis on building a wide range of competencies, feelings of efficacy, and motivation to complete career-enhancing programs. This can be accomplished by ensuring that they have information about the types of programs available in college, the skills needed to complete those programs, the extent they possess those skills, and how they could build those skills. They pointed to JROTC as the one program that, if broadly applied, could greatly increase their engagement, interest in attending college, and confidence.

Endnotes

1. National statistics for 25–34 year olds indicate that the earnings of two-year degree holders are only 67 percent of the earnings of four-year degree holders, but other percentages are comparable to those in Figure 1 as is the level of average earnings for four-year degree holders, which is \$38,200.
2. My colleagues and I developed this database to study high-return postsecondary pathways open to students with differing GPAs (Jacobson, Furchtgott-Roth, and Mokher 2009; Jacobson and Mokher 2009). The data include high school and college transcripts, plus quarterly wage records that follow students through high school, into public colleges, and into the labor force through 2008. In figure 1 alone, the student-level data were supplemented with aggregate Florida data on college attendance and receipt of credentials in order to take into account the 38 percent of students who attend private and out-of-state colleges (Snyder 2003, tables 182 and 204). Extrapolations were used to distribute the uncovered students across the GPA groups.
3. Attainment rates look considerably better if examined over 12 years instead of 6. Overall, about 46 percent of students obtain degrees and 19 percent of those who attend college leave with no credential, but aggregate statistics do not break down outcomes by GPA.
4. Although the effects on low-performing students is of primary concern, outcome-based systems would also create incentives to take steps that would speed college completion and selection of high-return programs for high-performing students attending universities; there is plenty of room for improvement over the current six-year completion rate of about 50 percent for these students (compared to the 20 percent three-year completion rate of community college students).

References

- Apsler, Robert. 2009, February. "After-School Programs for Adolescents: A Review of Evaluation Research." *Adolescence* 44 (173): 1–19.
- Barnett, Elisabeth A. Maggie P. Fay, Rachel Hare Bork, and Madeline Joy Weiss. 2013, May. "Reshaping the College Transition: States That Offer Early College Readiness Assessments and Transition Curricula." Community College Research Center, Teachers College, Columbia University, New York, NY.
- Carnevale, Anthony P., Ban Cheah, and Andrew R. Hanson. 2015, May. "The Economic Value of College Majors." Georgetown Center on Education and the Workforce, Georgetown University, Washington, DC.
- Dee, Thomas S., and Brian A. Jacob. 2010 Fall. "The Impact of No Child Left Behind on Students, Teachers, and Schools." *Brookings Papers on Economic Activity* 2010 (2): 149–207.
- Elliott, Marc N., Lawrence M. Hanser, and Curtis L. Gilroy. 2001, January. *Evidence of Positive Student Outcomes in JROTC Career Academies: A Report for the Office of the Secretary of Defense*. Santa Monica, CA: RAND National Defense Research Institute.
- Every Student Succeeds Act (ESSA) of 2015, Pub. L. 114-95 (2015).
- Figlio, David, and Maurice Lucas. 2002. "What's in a Grade? School Report Cards and House Prices." Working Paper 8019, National Bureau of Economic Research, Cambridge, MA.
- Goldin, Claudia D., and Lawrence F. Katz. 2009. *The Race between Education and Technology*. Cambridge, MA: Harvard University Press.
- Gordon, Robert J. 2016. *The Rise and Fall of American Growth: The U.S. Standard of Living Since the Civil War*. Princeton, NJ: Princeton University Press.
- Gutman, Leslie Morrison, and Carol Midgley. 2000. "The Role of Protective Factors in Supporting the Academic Achievement of Poor African American Students During the Middle School Transition." *Journal of Youth and Adolescence* 29 (2): 223–248.
- Hoachlander, Gary, Anna C. Sikora, and Laura Horn. 2003. "Community College Students: Goals, Academic Preparation, and Outcomes. Postsecondary Education Descriptive Analysis Reports." Institute of Education Sciences, National Center for Education Statistics, U.S. Department of Education, Washington, DC.
- Jacobson, Louis S., and Christine Mokher. 2009. "Pathways to Boosting the Earnings of Low-Income Students by Increasing Their Educational Attainment." Prepared for the Bill & Melinda Gates Foundation by the Hudson Institute and CNA, Chicago, IL.
- Jacobson, Louis S., Diana Furchtgott-Roth, and Christine Mokher. 2009. "Strengthening Community Colleges' Influence on Economic Mobility." Report, Economic Mobility Project, The Pew Charitable Trusts, Philadelphia, PA.
- Jepsen, Christopher, Kenneth Troske, and Paul Coomes. 2014. "The Labor-Market Returns to Community College Degrees, Diplomas, and Certificates." *Journal of Labor Economics* 32 (1): 95–121.
- Kane, Thomas. 2004, January. "The Impact of After-School Programs: Interpreting the Results of Four Recent Evaluations." Working paper of the William T. Grant Foundation, University of California, Los Angeles.
- Kemple, James J., and Cynthia J. Willner. 2008, June. "Career Academies: Long-Term Impacts on Labor Market Outcomes, Educational Attainment, and Transitions to Adulthood." Report, MDRC, New York, NY.
- Kena, Grace, William Hussar, Joel McFarland, Cristobal de Brey, Lauren Musu-Gillette, Xiaolei Wang, Jijun Zhang, Amy Rathbun, Sidney Wilkinson-Flicker, Melissa Diliberti, Amy Barmer, Farrah Bullock Mann, and Erin Dunlop Velez. 2016. "The Condition of Education 2016." Institute of Education Sciences, National Center for Education Statistics, U.S. Department of Education, Washington, DC.
- Mokher, Christine, and Louis S. Jacobson. 2014, December. *Assessment of the Florida College and Career Readiness Initiative: Year 2 Report*. Washington, DC: Institute of Education Sciences, U.S. Department of Education.
- National Center for Education Statistics (NCES). 2002. "Education Longitudinal Study of 2002." Institute of Education Sciences, National Center for Education Statistics, U.S. Department of Education, Washington, DC.
- . n.d. "About the SLDS Grant Program." National Center for Education Statistics, U.S. Department of Education, Washington, DC.
- No Child Left Behind Act of 2001, Pub. L. 107-110 (2002)
- Park, Scott J. and Kathyrine L. Scheuch. n.d. "How do Florida College System First-time in College Degree Seeking Students Perform in Developmental Education?" Florida College System Research & Analytics, Tallahassee, FL.

- Scrivener, Susan, Michael J. Weiss, Alyssa Ratledge, Timothy Rudd, Colleen Sommo, and Hannah Fresques. 2015, February. "Doubling Graduation Rates: Three-Year Effects of CUNY's Accelerated Study in Associate Programs (ASAP) for Development Education Students." Report, MDRC, New York, NY.
- Snyder, Thomas D. 2003, June. "Digest of Education Statistics 2002." NCES Report 2003-060, Institute of Education Sciences, National Center for Education Statistics, U.S. Department of Education, Washington, DC.
- Snyder, Thomas D., Christobal de Brey, and Sally A. Dillow. 2016. "Digest of Education Statistics 2015." Institute of Education Sciences, National Center for Education Statistics, U.S. Department of Education, Washington, DC.
- Southern Regional Education Board. n.d. "SREB Readiness Courses."
- Stull, Judith C. 2013. "Family Socioeconomic Status, Parent Expectations, and a Child's Achievement." *Research in Education* 90 (1): 53-67.
- U.S. Chamber of Commerce Foundation. 2014. "Leaders and Laggards: A State-by-State Report Card on K-12 Educational Effectiveness." U.S. Chamber of Commerce, Washington, DC.



ADVISORY COUNCIL

GEORGE A. AKERLOF
Koshland Professor of Economics
University of California, Berkeley

ROGER C. ALTMAN
Founder & Senior Chairman
Evercore

KAREN ANDERSON
Senior Advisor, Results for America
Executive Director, Results for All

ALAN S. BLINDER
Gordon S. Rentschler Memorial Professor
of Economics & Public Affairs
Princeton University
Visiting Fellow
The Brookings Institution

ROBERT CUMBY
Professor of Economics
Georgetown University

STEVEN A. DENNING
Chairman
General Atlantic

JOHN DEUTCH
Emeritus Institute Professor
Massachusetts Institute of Technology

CHRISTOPHER EDLEY, JR.
Co-President and Co-Founder
The Opportunity Institute

BLAIR W. EFFRON
Co-Founder
Centerview Partners LLC

DOUGLAS W. ELMENDORF
Dean & Don K. Price Professor
of Public Policy
Harvard Kennedy School

JUDY FEDER
Professor & Former Dean
McCourt School of Public Policy
Georgetown University

ROLAND FRYER
Henry Lee Professor of Economics
Harvard University

JASON FURMAN
Senior Fellow
Peterson Institute
for International Economics

MARK T. GALLOGLY
Cofounder & Managing Principal
Centerbridge Partners

TED GAYER
Vice President & Director
Economic Studies
The Brookings Institution

TIMOTHY F. GEITHNER
President
Warburg Pincus

RICHARD GEPHARDT
President & Chief Executive Officer
Gephardt Group Government Affairs

ROBERT GREENSTEIN
Founder & President
Center on Budget and Policy Priorities

MICHAEL GREENSTONE
Milton Friedman Professor in Economics
Director
Energy Policy Institute at Chicago
University of Chicago
Nonresident Senior Fellow
The Brookings Institution

GLENN H. HUTCHINS
Chairman
North Island
Co-Founder
Silver Lake

JAMES A. JOHNSON
Chairman
Johnson Capital Partners

LAWRENCE F. KATZ
Elisabeth Allison Professor of Economics
Harvard University

MELISSA S. KEARNEY
Professor of Economics
University of Maryland
Nonresident Senior Fellow
The Brookings Institution

LILI LYNTON
Founding Partner
Boulud Restaurant Group

HOWARD S. MARKS
Co-Chairman
Oaktree Capital Management, L.P.

MARK MCKINNON
Former Advisor to George W. Bush
Co-Founder, No Labels

ERIC MINDICH
Chief Executive Officer & Founder
Eton Park Capital Management

SUZANNE NORA JOHNSON
Former Vice Chairman
Goldman Sachs Group, Inc.

PETER ORSZAG
Managing Director & Vice Chairman of
Investment Banking
Lazard
Nonresident Senior Fellow
The Brookings Institution

RICHARD PERRY
Managing Partner & Chief Executive Officer
Perry Capital

MEEGHAN PRUNTY
Managing Director
Blue Meridian Partners
Edna McConnell Clark Foundation

ROBERT D. REISCHAUER
Distinguished Institute Fellow
& President Emeritus
Urban Institute

ALICE M. RIVLIN
Senior Fellow
The Brookings Institution
Professor of Public Policy
Georgetown University

DAVID M. RUBENSTEIN
Co-Founder & Co-Chief Executive Officer
The Carlyle Group

ROBERT E. RUBIN
Co-Chair, Council on Foreign Relations
Former U.S. Treasury Secretary

LESLIE B. SAMUELS
Senior Counsel
Cleary Gottlieb Steen & Hamilton LLP

SHERYL SANDBERG
Chief Operating Officer
Facebook

RALPH L. SCHLOSSTEIN
President & Chief Executive Officer
Evercore

ERIC SCHMIDT
Executive Chairman
Alphabet Inc.

ERIC SCHWARTZ
Chairman and CEO
76 West Holdings

THOMAS F. STEYER
Business Leader and Philanthropist

LAWRENCE H. SUMMERS
Charles W. Eliot University Professor
Harvard University

PETER THIEL
Entrepreneur, Investor, and Philanthropist

LAURA D'ANDREA TYSON
Professor of Business Administration and
Economics
Director
Institute for Business & Social Impact
Berkeley-Haas School of Business

DIANE WHITMORE SCHANZENBACH
Director

Highlights

In order to address a lack of preparation and motivation for completing career-enhancing postsecondary programs among low-performing students, Louis S. Jacobson of the George Washington Institute of Public Policy proposes a reform in accountability policy to shift focus toward students' college and career outcomes, as well as a set of best practices for schools to help students succeed in postsecondary programs.

The Proposal

Focus accountability policies on college and career outcomes. States would add measures of earnings and attainment of four-year degrees, two-year degrees, and certificates to assess how well high schools are preparing their students for career and college success.

Implement school practices to improve college and career outcomes for low-performing students. Middle and high schools would introduce high school, college, and career planning modules into curricula for all students to improve engagement and preparation. High schools would also assess college readiness of juniors to alert them that obtaining diplomas does not necessarily signify college readiness, and require non-college ready students to take college success courses to minimize the need for college developmental education courses. Finally, schools would partner with outside groups to provide students with mentorship opportunities that give them the personal attention they need to be confident their plans will be realized.

Benefits

This proposal would benefit low-performing students, who frequently are disengaged and under-estimate the value of their attending college. Through better planning, preparation, and motivation, these students will increase the likelihood that they will complete earnings-enhancing college programs and enter well-paying jobs.



1775 Massachusetts Ave., NW
Washington, DC 20036

(202) 797-6484

BROOKINGS



Printed on recycled paper.

WWW.HAMILTONPROJECT.ORG