CEOs for Cities: Strategy Guide

College Readiness

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In one of President Obama's first policy addresses, he introduced a lofty goal: "By 2020, America will once again have the highest proportion of college graduates in the world." He pointed out that "three-quarters of the fastest-growing occupations require more than a high school diploma. And yet just over half of our citizens have that level of education…. And half of the students who begin college never finish." The Talent Dividend research strengthens this call to action by showing that even a modest increase in college attainment offers a significant boon to your local economy.

One pathway to the Talent Dividend is through taking steps to ensure that more students enter college with the knowledge base, skill set, and attitudes that will give them the best chance to succeed—that is, through college readiness. Importantly, this policy emphasis mirrors the goals of students and parents themselves. Regardless of race or income, more than 9 in 10 students expect to attend some kind of post-secondary school, and more than 9 in 10 parents expect the same of their child.[1]

College readiness also aligns with the interests of K-12 and higher-education institutions. For instance, a growing body of research shows that students who work hard in high school do so because they make a direct link between their efforts and the rewards of college and career. So by prioritizing college readiness, schools can actually increase their own graduation rates. At the same time, colleges are becoming increasingly concerned with retention and graduation, and college readiness aids them in these efforts (in addition to many other measures they can take within their own institutions—which is the topic of another Strategy Guide).

A strategy that aligns with the perceived self-interest of students, parents, and schools and colleges is likely to gain strong support and traction. This guide to college readiness reviews research and best practices that can help you think through this important potential Talent Dividend strategy.

Gauging College Readiness

When it comes to defining what it means for students to be ready for college, there is little consensus, which in turn makes readiness difficult to measure. Nevertheless, three metrics have traditionally been used to predict college academic success:

High school coursework

Though a host of factors affects whether a student successfully matriculates to and completes college, there is replicable research that shows a student's course of study in high school is the single biggest predictor of college success—greater than family background, parents' education level, test scores, class rank, or GPA.[2] It is the quality and intensity of high school curriculum that is most important.

According to a longitudinal study from the Department of Education, called The Tool Box Revisited, students don't just need more courses in broad subject areas; the actual content of the courses is important, and it matters whether it matches the demands for entry-level courses in two-year and four-year colleges.[3] Unfortunately, the study found that not all high schools offer a full curriculum portfolio, especially those that serve minority students and students from families of low socio-economic status.

More specifically, some aspects of the high school curriculum provide greater momentum to degree completion than others:

- The combination of getting beyond Algebra II in math and taking three units in core laboratory science (biology, chemistry, physics) is more critical than taking three units in foreign language or Advanced Placement classes, even though Advanced Placement courses contribute to the highest level of academic intensity in a high school curriculum.
- Of students who completed a high school curriculum at the highest levels of academic intensity in high school 95 percent earned a bachelor's degree.

Some observers caution that a course-based approach to college readiness does not guarantee that students will be better prepared. Researchers from the California-based National Center for Public Policy and Higher Education, among others, point out that course titles are only loose proxies for the skills and knowledge students need to master to perform well in credit-bearing college courses.[4] Those researchers call on colleges to work more closely with high schools in efforts to ensure that coursework is aligned with postsecondary expectations.

Standardized tests

Scores on the major national college admissions tests, the ACT and the SAT, are more frequently (and, perhaps, more reliably) used as indicators of college preparation than are results on state academic assessments. Occasionally, NAEP (The Nation's Report Card) scores are available for evaluation as well.

Recently, ACT, Inc. has devised a college readiness system with multiple components designed to assist states in preparing students for college and work. As one part of that system, ACT established target scores on its English, mathematics, reading, and science tests to offer a performance-based method of identifying college-ready students. According to ACT research, students meeting the test score benchmarks have a better chance of earning a grade of B or above in introductory college courses and ultimately of finishing their degrees.

Each year, ACT releases both national and state-specific reports on the most recent graduating senior high school class. These reports assess the level of student college readiness based on aggregate score results of the ACT college admission and placement exam. The foundation of this annual report is empirical ACT data that specify what happens to high school graduates once they get to college or work based on how well they were prepared in middle or high school. To accesses the national and state reports, see: http://www.act.org/news/data/09/index.html

However, researchers caution against too much focus on test preparation. In a recent study of Chicago public schools, scores were actually lower when teachers spent more class time on ACT prep.[5]

High school class rank and GPA

Grades and overall school rank are sometimes thought to be better predictors of college success than are standardized tests, but the measures are still critiqued for not capturing whether students have the skills necessary to succeed in college. Some suggest that in-classroom evaluations could be changed to make these metrics more reliable. For instance, Linda Darling-Hammond, a Stanford University education professor, suggests that a true measure of complex, college-level skills could require a move away from the dominant grade and test format of multiple-choice and short-essay questions. For example, nations with high levels of student achievement, such as Finland, administer assessments that tilt more toward open-ended essays, science investigations, or research papers, often given as school-based assignments. "These are the tasks that require kids to express their findings and views, argue, defend their ideas," Darling-Hammond says. "These are the real tests of what you have to do when you get to college."

While any new metrics of college readiness beyond the three discussed above have yet to be evaluated, some policymakers are looking for new ways to assess factors beyond grades, courses, and achievement. David Conley at the Center for Educational Policy Research at the University of Oregon College of Education has developed a set of standards geared toward university-level expectations of the knowledge and skills students need to be successful in first-year coursework.[6] Conley identifies four central elements to college success:

- Cognitive strategizes, such as analysis, reasoning and argumentation, and interpretation
- Content knowledge necessary to understand the structure of each academic discipline
- Academic behaviors such as self-monitoring and study skills
- "College knowledge," or an understanding of how the postsecondary system operates, including the process of admissions and financial aid

Other researchers generally show consensus around these areas, although with varying emphasis. However, there is little research or consensus on how best to measure these factors.

California Early Assessment Program

The California State University system works with K-12 schools to augment the 11th grade assessment to include items that test for students' readiness for college. The CSU established the Early Assessment Program to provide high school students with information to measure their readiness for college-level mathematics and English in their junior year and to help them improve their skills during their senior year. It will be important to see data that focus on the effect of the program on students' enrollment and success in postsecondary education; there is some concern that signaling to high school students that they are not ready for college could diminish matriculation.

Academic Preparation

Where are students falling short?

Roughly 4 in 10 college students do not feel prepared for the work expected of them in college.[7] And, according to one study, only 34 percent of all students finish high school with the minimum qualifications necessary for admission to a four-year postsecondary institution, although many colleges with open-enrollment will admit them anyway.[8] That means that once they reach college, large numbers of new students require remediation or developmental coursework before they can move on to college-level material.[9]

To some degree, this is a consequence of the disconnect between curricula and expectations between K-12 and postsecondary education.[10] State and federal policies have distinct funding, accountability, and governance systems, making it difficult for the two sectors to coordinate standards and expectations.

What works

Where to find successful high school interventions

As we have seen, rigorous coursework is one key to college success. Schools must offer and get their students to enroll in and succeed in challenging math, English, and science courses that will help prepare them to perform well in college. One way to do this is to increase performance standards and course requirements to include college preparatory classes and high-stakes tests. Some programs go even further—one successful program in Texas offered financial incentives to students and teachers for passing advanced placement courses.[11]

The Department of Education also supports a variety of college preparatory programs. Research evaluations have shown that GEAR UP (see sidebar) has been particularly successful. Other programs have demonstrated less success in rigorous evaluations.

Updated information on the success of intervention programs is available from the Department of Education through its What Works Clearinghouse.

GEAR UP

The Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is a discretionary grant program through the Department of Education that provides seven-year grants to states and school-college partnerships to fund support services for middle and high schools that serve large low-income student populations. GEAR UP provides services during regular school hours to entire grades, or cohorts, of students to help improve college readiness and enrollment rates. It emphasizes college preparatory coursework in conjunction with tutoring or additional instruction outside of regular classes. Current research suggests that it is a promising early intervention program.

But middle school preparation may be even more important

Though some of the strategies discussed can improve the likelihood that students will gain a solid foundation in high school, students need to be ready for rigorous high school coursework when they get there. Research from ACT has found that "under current conditions, the level of academic achievement that students attain by eighth grade has a larger impact on their college and career readiness by the time they graduate from high school than anything that happens academically in high school."[12]

This means that, despite the importance of interventions in high school, preparation for college has its foundation in the upper elementary grades and in middle school. Students need to enter high school with a mastery of math, English, reading, and science and skills in planning and organization, follow-through, and sustained effort. Unfortunately, there is limited research on interventions in the middle school years.

Data systems aid the implementation and gauge the efficacy of interventions

But no matter the program or intervention, data systems must be implemented in order to track the progress of students through graduation. Florida has been using its longitudinal "data warehouse" to connect K-12, postsecondary, and workforce information. The information helps high schools learn how well they are doing in preparing students for college and careers. State and local school officials say having such data allows them to analyze how district policies and coursework have affected students' postsecondary success. States are required by the federal No Child Left Behind Act to collect data on test scores and graduation and dropout rates, but including other measures like coursework and college entrance exam scores makes systems better at evaluating students' college readiness.

Other states wishing to develop their own data systems are working with the American Diploma Project. For example Florida, which has developed a system to track the progress of students from kindergarten through college graduation.

American Diploma Project

The American Diploma Project (ADP) Network now includes 35 states that are dedicated to making sure that every high school graduate is prepared for college and a career. Together, Network member states are responsible for educating nearly 85 percent of all U.S. public school students. The states have committed to four policy actions that, taken together, can restore value to the high school diploma:

- Align high school standards and assessments with the knowledge and skills required for success after high school.
- Require all high school students to complete a college- and career-ready curriculum so that earning a diploma assures a student is prepared for opportunities after high school.
- Build assessments into each statewide system that measure students' readiness for college and careers.
- Develop an accountability system that promotes college and career readiness.

Using these ADP benchmarks as an anchor, states in the ADP Network are working to create a system that signify readiness for college and careers. State policymakers have the primary responsibility for accomplishing this, working closely with local educators and postsecondary education institutions, but federal policymakers and the nation's business leaders also have an essential role to play.

Social Preparation

Applying to college is a difficult process even for the most academically qualified students. Moreover, observers point out that schools aren't equipped to help students navigate the complex process of applying and being accepted to and paying for college. Research has also found that even among students who aspire to attend college, many do not even apply because they don't know what to do.[13]

Nearly half of young people say they did not get specific advice from a counselor on what courses they needed to take to prepare for college, and similar numbers say there were not enough counselors at their school to meet the needs of students.[14] High schools need trained counselors and teachers to help students select and apply for both college and financial aid. This is especially important for students who are the first in their families to attend college. There are low-cost opportunities like the National College Advising Corps that can make this kind of guidance more affordable for schools to provide.And the Lumina Foundation for Education's KnowHow2Go initiative is geared specifically toward making this kind of knowledge more accessible to college-bound high school students with a user-friendly web site with separate sections and tools for students in middle school through 12th grade, as well as information for mentors. And the Lumina Foundation for Education's KnowHow2Go initiative is geared specifically toward making this kind of knowledge more accessible to college-bound high school students with a user-friendly web site with separate sections and tools for students in middle school through 12th grade, as well as information for mentors.

College-going climate

Regardless of their academic preparation, one of the most important predictors of students going to college is whether they attend a high school where the majority of students go to college. When they do, a student is as much as four times as likely to seek higher education.[15] The rate of college attendance captures the overall college-going culture of the school, as well as whether the school provides critical guidance and support. But how do you foster a college-going culture? In writing for the Gates Foundation, Barbara Schneider emphasizes that "all teachers in a high school should explicitly articulate the expectation that all students will attend postsecondary school and provide resources and opportunities to make that happen." She says that students' relationships with teachers are what really makes a difference for students.[16]

Additional research shows that "aspirational relevance," connecting students' school experience with their life goals, is another key factor in school success.[17] This also affects another key success factor: rigor, which was discussed in the

previous section. If students expect to go to college, they take more challenging courses and work harder to succeed in those classes. Business has a role to play here, in as much as they can help students connect their educational and career goals, and provide students with opportunities to experience various career paths through internships, mentorships, etc. Helping students understand the connection between a college degree and the kinds of jobs they are interested in is critical.

College Summit

College Summit is a national nonprofit organization that builds the capacity of high schools to raise their college enrollment rates and create the kind of college-going culture that helps all students stay on track academically and graduate college-ready.

The primary model provides college-going culture tools for all seniors in a high school to help them through the college navigation process. A second model provides college-going culture training tools for every high school, starting in ninth grade.

But if students are not prepared...

In a recent interview, U.S. Secretary of Education Arne Duncan pointed out that college success is inherently linked to systemic improvements in K-12 schools. "You want students being able to walk in [to college] and be successful in college work," he said. "Ideally, as we raise the bar on the K-12 side, we should be working colleges out of the remediation business."

Many educators and experts agree that college readiness is one of, if not the most, important factors when it comes to college retention and completion. But in the short term, studies of college remediation rates show that holding a diploma often doesn't signify college readiness. (Please see the resource guide on College Retention and Completion for further information about successful remediation and developmental education strategies in college.)

Policy Changes in Practice

Over the past decade, policymakers have been paying increasing attention to high school students' preparation for college. The following are some policy changes that have been implemented in a variety of states and communities.

Adopting college readiness standards and assessments

Historically, K-12 standards and assessments were developed independently of higher education institutions. This is beginning to change. According to data from Achieve, nineteen states report that their high school standards are aligned with postsecondary expectations, and twenty-six additional states report that they are in the process of doing so.[18] Several states have also increased the rigor of their binding high school exit exams. According to the Center on Education Policy, twenty-six states have implemented high school exit exams or plan to do so by 2012.[19] The data also show that states are moving away from minimum competency exams and toward standards-based and end-of-course exams. Furthermore, Achieve has identified nine states that have incorporated college readiness standards as part of their statewide assessment systems and twenty-three states that plan to do so in the future.[20]

Adopting rigorous graduation requirements

Based on the aforementioned research that shows coursework to be a major factor in determining college success, many states have adopted more rigorous coursework requirements to enhance college preparation. Achieve has found that eighteen states currently have "college- and work-ready" graduation requirements and twelve other states have plans to adopt this sort of curricula. This means that students are required to take "four years of challenging math, at least through Algebra II or its equivalent, and four years of rigorous English aligned with college- and work-ready standards."[21]

Providing academic supports to meet rigorous standards

More rigorous standards and assessment likely depend on a number of strategies that accompany these increased requirements. Currently, more than half of all states require

remediation for low-performing high school students. Many states also require individual plans for at-risk students that identify their areas of weakness and develop plans for helping them improve.[22]

Ensuring course quality

Course titles alone cannot guarantee the content of coursework. Most standards require that students take a certain number and type of courses, but the quality of instruction and student expectations can vary widely. Some states are beginning to require end-of-course exams to evaluate what students have learned in a particular course. The tests are most widely used following Algebra II, but a few states are expanding the practice to other disciplines.[23]

Dual enrollment

Dual enrollment programs, where students are simultaneously enrolled in high school and a postsecondary institution, can expand the curricular options for students, especially those enrolled in schools without rigorous course offerings, and expose students to postsecondary campuses and standards. They can also provide a faster transition for students who cannot afford to pay four years of college tuition. The Community College Research Center at Columbia University is currently conducting large-scale research on dual enrollment, so more information about the efficacy of these programs should be available soon.

DeVry University Advantage Academy

DeVry University Advantage Academy is a dual-enrollment, dual-credit program that enables high school students to earn an associate degree from an accredited university while they finish high school. As a dual-enrollment program, DeVry University Advantage Academy consists of two academic years and one summer session. Students enroll after their sophomore year of high school and begin at Advantage Academy their junior year. By taking high school and college courses at the same time, dual enrollment eases the transition from high school to college and exposes students to the benefits of higher education.

High school courses are taught by certified high school educators, either at each student's school or on campus at DeVry. College classes are all taught by DeVry faculty on campus. For example, in Chicago, where the program originated in 2004, DeVry University Advantage Academy is a stand alone, certified Chicago Public Schools high school with its own principal located on DeVry University's Chicago campus. It has graduated four classes and the sixth class will matriculate in September 2009.

- Ninety-two percent of the students who enrolled in the first four classes have graduated high school.
- Ninety-two percent of the graduates from the first four classes have also earned their associate degree in network systems administration.
- Eighty-two percent of the students that earned an associate degree from all four classes have enrolled in bachelor's degree programs.

The DeVry University Advantage Academy in Columbus was launched in 2006 in partnership with the Columbus City Schools, and students take high school courses at their high school.

- One hundred percent of the students who enrolled n the first two classes have graduated high school.
- Ninety-three percent of the students in the first two classes have earned their associate degree in network systems administration.
- Almost 87 percent of students that graduated high school from both classes have enrolled in bachelor's degree programs.

Early college high schools

Early college high schools utilize dual enrollment as a key component of their course offerings. They are small schools that blend secondary and postsecondary education so that students can earn, tuition-free, high school and two-year degrees or two years of credit towards a four-year degree. Since 2002, the Bill and Melinda Gates Foundation has provided start-up funding to over 160 schools. These schools are likely to boost students' college readiness since they include college-level work. Early outcomes have been promising for graduates of early college high schools, but additional research needs to be conducted to evaluate the effectiveness of the programs.[24]

Secondary Technical Education Program

The Anoka-Hennepin Secondary Technical Education Program (STEP) is a high school, now entering its seventh school year, located on the campus of the technical college about 20 miles northwest of Minneapolis. It serves eleventh and twelfth grade students who take career-oriented courses while earning college credits. STEP offers programs for college credit in 20 different fields including medicine, information technology, advanced automotive, law enforcement and engineering. STEP students integrate with college faculty and students on a daily basis while in a separate brick and mortar high school on a shared campus.

Additional ideas

A few prominent policy organizations have made additional proposals that have yet to be implemented on a significant scale or be subjected to rigorous evaluation. Nevertheless, their ideas, grounded in expertise on the issue of college readiness, are valuable to further discussions of local action. For more detail around the ideas outlined in the bullets below, visit each organization's website.

From College Summit:

- Make college enrollment, persistence, and completion rates by high school reliable and publicly available.
- Make college proficiency rates (percentage of graduating high school class persisting to their second year of post secondary education) a key success measure of high schools.
- Encourage high schools to invest in building college-going culture.

From Achieve:

- Ensure equity, quality and consistency in the delivery of a core program of study aligned to college expectations.
- Allow for innovation at the local level.
- Promote dual enrollment and other forms of college course-taking in high school.

From New America Foundation:

- Create incentives to meet national college readiness standards.
- Require a high school graduation plan for every student and provide schools with the staff and resources to create and monitor them.
- Encourage states to partner with institutions of higher education to develop and replicate models that successfully link Pre-K-12 and higher education.

Where Do We Go From Here?

To help you think about using the information in this guide to inform your approaches to making progress on the Talent Dividend question, here are some questions to consider. You may not be able to fully answer these questions depending on what kind of data exists in your city, but they can be a useful place to start. For more information about action planning following a Talent Dividend Tour visit, see the Talent Dividend Post-Tour Planning Guide.

1. Which students in your city are not being prepared adequately for college? (Research indicates that though most students are not sufficiently prepared for college the problem is most acute among minority and low socio-economic status students.) Which schools in your city have the lowest numbers of students going on to college?

2. What is already being done locally to address the issue—and what seems to be working or not working? How do these efforts compare to those highlighted in this research brief? (For example, you can look to Achieve's reports to see what curricular standards are in place for your state and what college readiness plans are being adopted at the state level. See http://www.achieve.org/StateProfiles)

3. Based on your answers to questions 1 and 2, what course of action would make sense for your city? Can you see areas of "low-hanging fruit" that would make sense to tackle first, for example, in your city are there generally high performing students who are not attending college? What can local CEOs do to promote the importance of a college education for everyone, with a specific focus on connecting the importance of a college degree with specific career goals of students? •

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