



April 2019

EQUITY & ATTAINMENT

Achieving Two Goals with One Policy

An Arizona Chamber Foundation Policy Brief

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EDUCATION

SETTING UP ARIZONA STUDENTS FOR ACADEMIC AND CAREER SUCCESS

This policy brief provides an assessment of educational attainment by Arizona students, both at the college level and through career certifications. Only 27 percent of Arizona's public school students earned a postsecondary degree within six years of high school graduation. Far short of the number of degreed workers necessary to meet employer demand. At the same time, industries like Arizona's manufacturing and computers systems sectors have more than 15,000 unfilled positions, many requiring an industry certification rather than a postsecondary degree. These data points show that Arizona needs to do more to increase college graduation rates **and** support non-degree credentials in high paying fields. This policy brief outlines proven programs that help students successfully prepare for post-graduation success regardless of whether they choose a college or career path. Such efforts will ensure employers can find skilled workers and allow works to find competitive wage work. Without such a match, Arizona's economy will stumble.

In February 2019, the *Arizona Republic* published an online database ranking Arizona public high schools by the college achievement of their students. The Arizona Board of Regents compiles this data using a national database tracking student enrollment and graduation throughout the nation's community colleges and universities. The *Republic* database ranked Arizona public high schools by the percentage of their 2011 graduates earning a bachelor's degree within six years of graduation. The data also tracks the number of graduates earning two-year degrees. Overall, there is a great deal of room for improvement—just 27 percent of 2011 high school graduates in Arizona completed a two- or four-year degree within six years¹.

College, of course, is not the only path to post high school success, but it is an important one as automation and the tech economy require higher levels of education for workers. For those students not pursuing a postsecondary degree, technical education will be critical to earning a competitive wage and to filling job vacancies statewide. Careers in manufacturing and computer operations are two high-demand fields that do not necessarily require degrees for entry and good pay but do require high quality technical training. Indeed, nearly 15,000 open positions across Arizona could be filled with skilled workers carrying technical credentials rather than degrees. The pathway to this training can and should begin in high school for students interested in these careers.

Arizona policymakers are building a portfolio of options designed to encourage students to prepare for success after high school. How? With incentives to ensure educational institutions and students alike are encouraged to move to training and education options that give them the best opportunities while ensuring a return on the taxpayer's investment.

Some of these replicate proven programs from other states. Arizona has taken steps to emulate this success and should continue to strengthen incentives for earning college credit and should create a program to encourage the earning of high demand industry certifications.

In combination, these policies can support student success regardless of the route they choose.

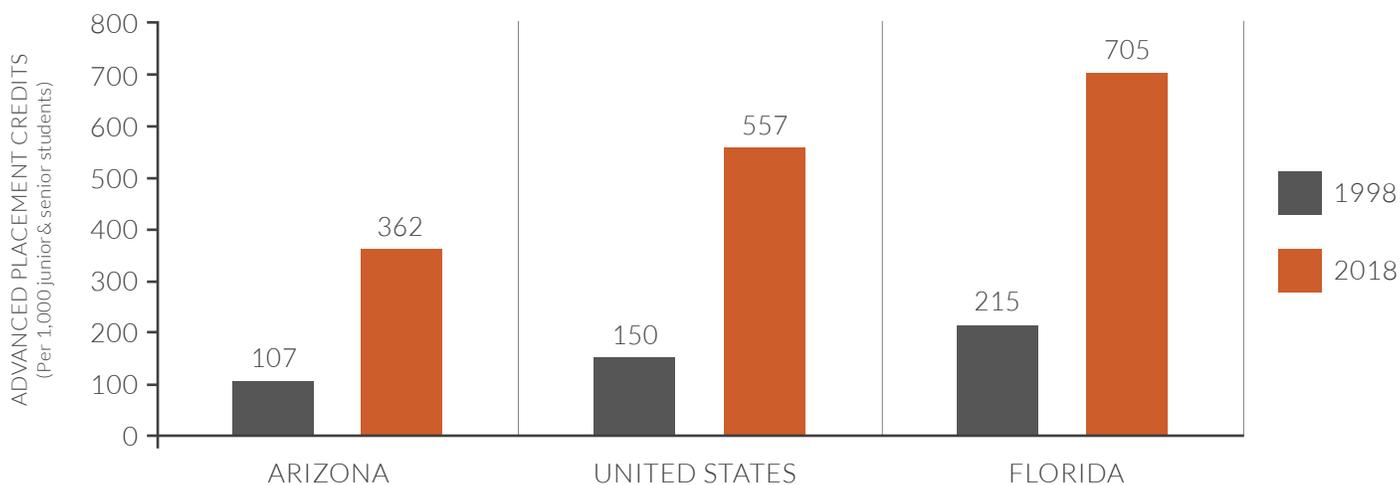
COLLEGE CREDIT BY EXAMINATION INCENTIVE PROGRAM

Earning college credit by exam in high school has significant benefits—credits earned by exam place students closer to obtaining a degree and at a lower cost, reducing the future financial burden on families. Research has also found that low-income students taking Advanced Placement (AP) exams have higher college completion rates even when they do not earn a passing score on the exam². Studying for a rigorous exam may also prepare students for college level academic work even in instances where college credit isn't earned.

While college enrollment and completion rates have trended positive, Arizona remains below the national average for both. Of the students who graduated from Arizona's public high schools in 2005, only 22.5 percent finished a postsecondary degree within six years. Rates for 2011 high school graduates reached 27.3 percent. In addition, college completion rates in Arizona are not equal among public high schools. Thirty percent of Arizona high schools graduating students in 2011 were responsible for producing nearly 84 percent of Arizona college graduates within six years. By contrast, the remaining 16.3 percent of Arizona's college graduates are spread out among 70 percent of Arizona's high schools³.

In 1999, Florida lawmakers created a bonus program for schools and teachers helping students to earn college credit by exam. Eight years later, they also created a similar bonus program for students earning high-demand career and industry certifications. In 2017, 59 percent of Florida's high school graduates earned either college credit by exam or a high-demand industry certification by graduation⁴. Figure 1 shows the increase in students taking AP exams in Arizona, Florida and the United States from 1998 to 2018, showing the number of high school students earning advanced credit for every 1,000 juniors and seniors.

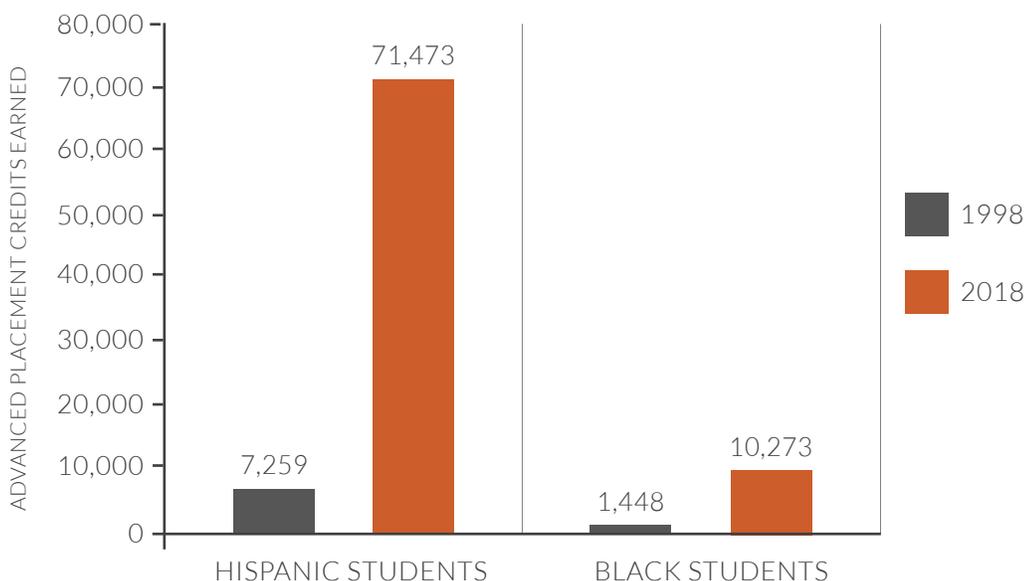
FIGURE 1: ARIZONA, FLORIDA & THE U.S. ADVANCED PLACEMENT CREDITS 1998 & 2018 (PER 1,000 JUNIOR & SENIOR STUDENTS)



Source: College Board

By 2016, Florida families had saved over \$139 million in higher education costs by earning credit through an exam⁵. In 2017, Florida ranked 4th in the country in the percentage of graduates scoring a 3 or better on one or more AP exam, at 30.8 percent, ranking behind only Massachusetts, Maryland and Connecticut⁶. This rising tide lifted all boats as Florida's Hispanic and Black student populations benefitted from this effort to expand attainment.

**FIGURE 2: FLORIDA ADVANCED PLACEMENT CREDITS
1999 & 2018 HISPANIC AND BLACK STUDENT TOTALS**



Source: College Board

These trends are not confined to Florida. Traditionally underserved Hispanic and Black communities in Texas similarly benefitted from the Dallas-based Advanced Placement Incentive Program (APIP). An Education Next review of the incentive program showed that after the first two years, more students took and passed AP and International Baccalaureate (IB) tests⁷. The success of the Texas APIP efforts also translated into improved college going rates and higher SAT scores.

In hopes of replicating these results, Arizona Governor Doug Ducey proposed, and the Arizona Legislature passed a new law (A.R.S. §15-249.06) to create the College Credit by Examination Incentive Program (CCEIP) in 2016. CCEIP provides school and teacher bonuses as an incentive to support students earning a passing score on a qualifying college credit exam. Arizona public universities have set passing scores on Cambridge International Examinations (Cambridge), AP, and IB tests, which qualify for CCEIP.

Schools where at least 50 percent of students qualify for the National School Lunch Program, an indicator of a school's poverty level, generate a bonus of \$450 per passing score. All other schools earn \$300 per passing score on a qualifying examination.

Under CCEIP, a school district or charter school must distribute at least 50 percent of the bonus monies to the associated classroom teacher for each student who passes a qualifying examination. Bonus monies awarded to a teacher must be in addition to any regular wage, compensation or other bonus the teacher receives or is scheduled to receive. The remaining funds can be used for teacher professional development or student instructional support or materials.

Arizona began making bonus payments to Arizona schools during the 2017-18 school year. About 80 percent of CCEIP funds went to district students, while charter students earned 20 percent of the funds⁸. This reflects the attendance trends of the overall student population in public schools.

As 2018 was the baseline year for reporting from which gains for all students on all early credit exams will be measured, no conclusive evaluations can yet be made regarding CCEIP’s impact. The College Board, however, collects data on AP participation by a limited number of student characteristics. Prior to CCEIP implementation, 2016 College Board data revealed a stark achievement gap: White students earned the majority (53 percent) of all AP scores of 3 or higher. From 2016-2018, however, the gap started to narrow as the number of Hispanic students earning a score of 3 or higher increased by 14 percent and the number of Black students by 10 percent. The number of White students earning a score of 3 or higher increased by just 1 percent. By 2018, minority students now earn 51 percent of the top AP scores. CCEIP has the potential to expand the number of high schools with students who complete college, especially as the larger CCEIP bonuses are provided to high poverty schools, incentivizing this result⁹.

FIGURE 3: ARIZONA ADVANCED PLACEMENT CREDITS EARNED BY SUBGROUP 2016-2018 WHITE, HISPANIC AND BLACK STUDENT TOTALS

| Student Subgroup | 2016 | 2017 (AP CREDITS EARNED) | 2018* | Percent Increase (FROM 2016-2018) |
|------------------|--------|-----------------------------|--------|--------------------------------------|
| White | 20,340 | 20,783 | 20,549 | 1.02% |
| Hispanic | 8,893 | 9,846 | 10,116 | 13.75% |
| Black | 666 | 722 | 731 | 9.76% |

Source: College Board
*CCEIP Policy Implementation Year

CASE STUDY: UNIVERSITY HIGH SCHOOL STUDENTS OVERCOME ACHIEVEMENT GAPS WITH EARLY COLLEGE CREDIT

Students of color comprise a majority of the student body at University High School (UHS) in the Tucson Unified School District. Many students also qualify for a free or reduced lunch and 40 percent of students live in homes where English is not the primary language spoken at home. Despite these challenges, UHS’s 2011 graduates earned a bachelor’s degree at higher rates than any other public high school in Arizona, according to data compiled by the Arizona Board of Regents.

Part of the reason: rigorous course work. All UHS students take Advanced Placement coursework and exams. Students whose first language is not English are not only passing AP exams, but excelling. UHS helped to inspire policymakers to recommend early college credit as an approach to equity and attainment as a best-practice school, and the bonuses are helping to sustain the school’s programs and critical staff retention efforts.

University High earned more CCEIP bonuses than any other Arizona school in the first year of the program¹⁰.

“I love UHS because it’s a challenge to me, and not a challenge that’s unapproachable, it’s a challenge in which I’m able to do something every day that’s helping me reach my goal to go into medicine,” Anisha Chatterjee, a UHS senior said.

The 1,200-student school is at capacity and has a growing waitlist. UHS Principal Amy Cislak said the future for her students is bright. UHS produced more National Hispanic Scholars than any other school in the nation and more Flinn Foundation Scholars than any school in Arizona. The school’s 2018 graduates were accepted into more than 300 universities and offered more than \$64 million in scholarships to help cover higher education expenses.

CCEIP funds have allowed UHS to increase teacher pay and expand programs for students and professional development for teachers.

“We are a campus that supports a growth mindset and we always want to improve. Having funds available to support our most valuable asset—our teachers—has allowed us the growth we need to serve more students and serve them well,” said Cislak.

IMPROVING COLLEGE COMPLETION THROUGH VERTICAL ALIGNMENT

Both Florida and Texas have complimentary vertically aligned programs to accelerate the success of their college credit programs. Arizona, too, has laid some of this groundwork.

In Florida, policymakers followed the creation of college credit bonuses with a non-profit partnership designed to improve the preparation of Florida students for higher education success. Under this partnership, the state paid for all its public school students in 10th grade to take the PSAT exam. The cost of this program was modest, but the gains in Florida have been impressive—especially in increasing credits earned by minority students. Florida’s public universities and two-year colleges had higher overall graduation rates and higher graduation rates for all racial and ethnic subgroups in 2013. Between 2002 and 2013¹¹, Florida’s six-year public college graduation rate improved from 56.4 percent to 64.4 percent—the 8th highest in the nation¹².

Arizona’s “Menu of Assessments” law has the potential to serve a similar purpose. With schools able to select from a menu of nationally recognized college entrance exams, K-12 public school systems can leverage these initiatives to improve both postsecondary readiness and attainment rates.

One potential evolution of Arizona’s “Menu” concept is to add the relevant pre-test to the assessment strategy. Not only would this give teachers, parents and students actionable information to identify readiness gaps ahead of the 11th grade test, it would provide a simple growth measure for the state’s high school rating system. Both of these benefits support the equity goals of CCEIP as well as the Achieve60AZ goals to improve statewide postsecondary attainment¹³.

While completion rates at Arizona’s public universities have improved since 2002 (from 51.6 percent in 2002 to 58.4

percent in 2013), additional gains could be made if more high school students had access to rigorous instruction and assessments that point them to postsecondary education.

Skeptics of CCEIP have raised objections concerning rural schools and low-income students. The program has faced critics who claim the rewards-based program could exclude impoverished students who can't afford a \$94 AP exam fee and rural students whose schools can't recruit enough teachers to offer AP classes¹⁴. The design of CCEIP is intended to address precisely these kinds of challenges by focusing the incentives for teachers to address recruitment efforts and allowing schools to make other needed investments for professional development and materials.

However, CCEIP is not the only program to improve early credit programs. It is a complement to other efforts such as lowering fees for low-income students taking AP, IB and Cambridge exams. The Arizona Governor's Office of Education and the Arizona Department of Education provide a fee reduction of \$32 per AP, IB or Cambridge exam for low-income students¹⁵. In addition, a non-profit organization offers AP and College Level Examination Program (CLEP) coursework and textbooks available free of charge, and has also arranged to cover student testing fees¹⁶. CCEIP augments these efforts by investing in teachers who are helping students earn the scores needed to achieve college credit.

“ WHILE COMPLETION RATES AT ARIZONA'S PUBLIC UNIVERSITIES HAVE IMPROVED... ADDITIONAL GAINS COULD BE MADE IF MORE HIGH SCHOOL STUDENTS HAD ACCESS TO RIGOROUS INSTRUCTION AND ASSESSMENTS THAT POINT THEM TO POSTSECONDARY EDUCATION. ”

Importantly, not all the levers to support students in passing these exams are financial. The College Board recently moved the AP testing sign-up window to earlier in the school year. Evidence shows this earlier registration date gives student more runway to plan for, study for and pass these tests¹⁷.

Even with these supports, rural schools have additional challenges accessing qualified instructors. Fortunately, higher education innovators have launched new online solutions to provide these higher-level courses to students in rural schools, including the Modern States Education Alliance, which created 72 online courses that are open and free of charge to all students. The courses are taught by top university faculty from institutions such as Arizona State University, John Hopkins University, the Massachusetts Institute for Technology and others. These online courses are designed to help students earn AP and CLEP credits, which are accepted at 2,900 institutions of higher learning¹⁸.

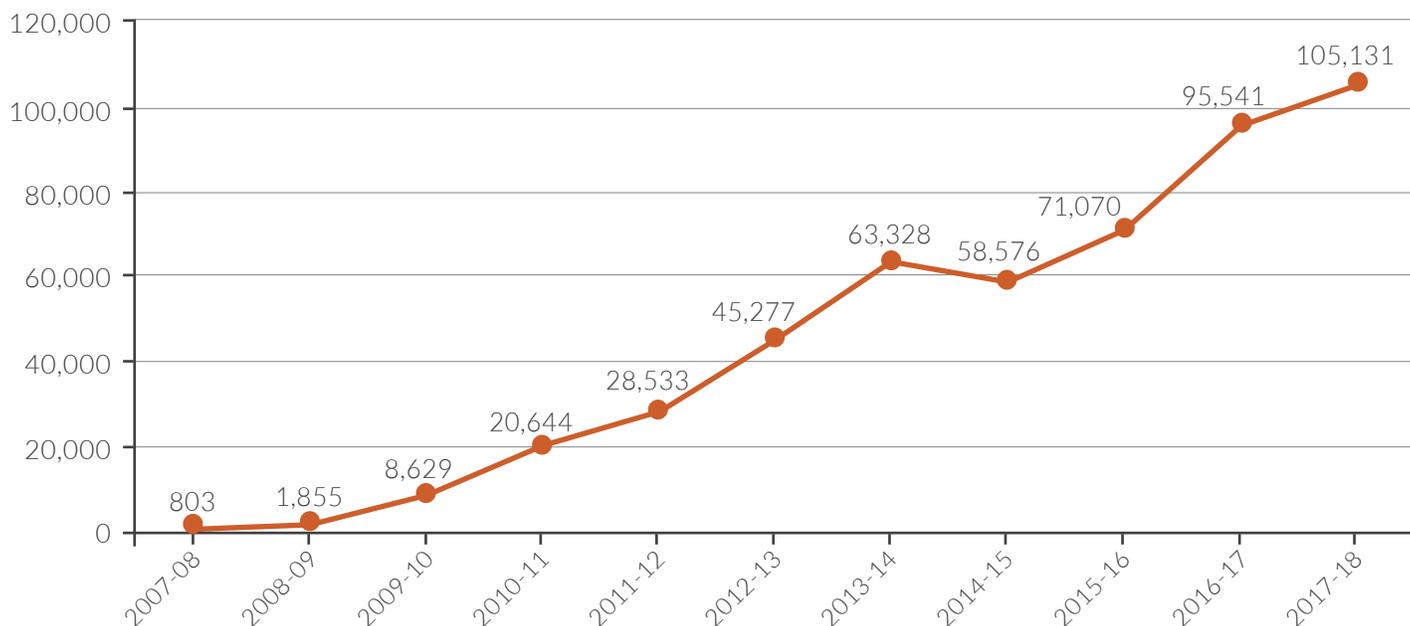
Arizona schools could make use of the free Modern States platform as a professional development tool for faculty in addition to a teaching tool for students.

It is vital for Arizona to have a diverse set of supports and incentives to grow attainment and improve equity. With CCEIP, Menu of Assessments, and public-private partnerships to help cover costs and expand awareness of rigorous open online courses, Arizona is headed in the right direction. Arizona policymakers should monitor the progress of these policies annually to assess impact and develop recommendations to ensure the programs have the intended positive impact for all students.

INDUSTRY CERTIFICATION: PREPARE STUDENTS, SUPPORT THE ECONOMY

Florida lawmakers created the Career and Professional Education Act (CAPE) to support the long-term success of students choosing to pursue a Career and Technical Education (CTE) path. This program mirrors the early college credit program and provides a bonus to schools for students earning high-demand professional certifications. Schools and teachers are only eligible to receive incentives for students who attain credentials on the state’s annual Industry Certification Funding List developed and updated by Florida’s state workforce investment board.

FIGURE 4: FLORIDA INDUSTRY CERTIFICATIONS
STUDENTS EARNING ONE OR MORE INDUSTRY CERTIFICATION 2008-2018



Source: Florida Department of Education Career and Professional Education Act Enrollment and Performance Reports

The percentage of Florida students earning industry certifications increased by 8,751 percent between 2007 and 2015—from a mere 803 certifications in the 2007-08 school year to 105,131 during the 2017-18 school year (see Figure 4).

In Arizona, Governor Ducey’s FY2020 budget proposed funding a bonus for every high school graduate who has also earned an in-demand industry certification.

Industry certifications in high demand fields have a market value to students and employers. These certifications expose students to real-life content that can prepare them for entry-level jobs or postsecondary training as well as identify vocations of interest. Not only do these experiences enhance the likelihood of postsecondary completion via college degrees or technical school completion, but they are also critical to meeting the growing demand for skilled workers¹⁹.

Arizona's manufacturing and computer operation systems sectors currently have more than 15,000 open positions and is expected to accelerate over the next decade²⁰.

Arizona, however, currently struggles to keep an accurate accounting of certifications. Achieve60AZ and national attainment advocates, such as Lumina²¹, post different certification attainment rates. It will be important to track accurately the number of certificates and the effectiveness of these certifications in growing a skilled workforce and improving statewide attainment rates.

Public resources are finite. Ensuring that certification bonuses have achieved their intended impact is essential for students and taxpayers alike.

CONCLUSION

College and career pathways are not mutually exclusive. Indeed, for certain industries, both degrees and industry certifications could be needed to acquire the skills necessary to maximize earning potential and to fill job vacancies.

Many European education systems track children into academic or non-academic paths based upon standardized test scores. Such a system often runs counter to American sensibilities, which prize self-determination and class mobility²².

Arizona needs to improve matters on both fronts: increase the percentage of students completing degrees, and better prepare students who do not initially go into college. Incentives for college credit by exam and industry certifications have advanced exactly these two goals in Florida and can do the same in Arizona.

Arizona policymakers can improve both the equity and effectiveness of financial reward programs, enhancing the overall vigor of the Arizona public education system in the process.

Arizona policy should reward outstanding achievement, and Arizona high schools should prepare students for future success. Financial rewards attached to tangible academic success create opportunities for school leaders to retain and reward staff and create new program opportunities for students.

By incentivizing multiple pathways to postsecondary success, Arizona will move closer to seeing equitable attainment for all students. This, after all, is the goal.

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