Beating the odds: Keeping kids in school with career technical education and Adobe certifications

CTE programs—featuring industry-standard Adobe tools and the Adobe Certified Associate credential—engage students and prepare them to participate fully in the 21st century economy.

Every 26 seconds, a student drops out of school in the United States—7,000 students every day—1.2 million students each year—making dropout rates in the U.S. the 19th highest in the world. This translates to a dismal 68% of U.S. students graduating from high school. Forty years ago, the U.S. ranked number one in high school graduation rates. Clearly, a lot has changed since then. This growing crisis continues to lower U.S. competitiveness in the global economy. The dropout crisis is high on President Obama’s agenda with a goal of 9 out of 10 students graduating by 2020.¹

“We know that the success of every American will be tied more closely than ever before to the level of education that they achieve,” [President] Obama said. “The jobs will go to the people with the knowledge and the skills to do them. It’s that simple.”²

“This is a problem we can’t afford to accept or ignore,” President Obama said. “The stakes are too high—for our children, for our economy, for our country. It’s time for all of us to come together—parents and students, principals and teachers, business leaders and elected officials—to end America’s dropout crisis.”³

Further, President Obama has also established a U.S. goal of retaking the world lead in college graduation rates by 2020. The U.S. currently ranks 12th out of 36 developed countries in the share of young workers with Associate’s degrees.⁴

While nearly 70 percent of high school graduates enroll in college, only 57 percent actually graduate.⁵

Dropouts are an issue for districts across the U.S. When students drop out, a cascade of consequences follows. Foremost is that the students are unprepared to enter the workforce—a workforce for which a high school diploma has become a minimum requirement. Their districts not only lose the state’s daily per-pupil funding, but dropout rates also impact school evaluations and can place a school in the category of “lowest achieving,” resulting in mandated state interventions and potential sanctions.

“[E]ach dropout, over his or her lifetime, costs the U.S. approximately $260,000⁶ in lost revenues. With 1.2 million students dropping out each year, the national cost for a single year’s dropouts is $312 billion.

The unemployment rate among dropouts is, not surprisingly, the highest of all educational levels. In January 2011, the unemployment rate for dropouts was 14.2%, compared with 9.4% for graduates and 4.2% for those with a Bachelor’s degree or higher.

Across the U.S., manufacturing and unskilled labor positions are declining while the need for employees with 21st century skills is increasing—skills such as creativity and innovation, critical thinking and problem solving, communication and collaboration.⁷ Employers across the country are looking for entry-level employees who have a minimum of a high school diploma and who are ready to work.⁸

¹ 11 Facts about Dropping Out Out http://www.dosomething.org/tipsandtools/11-facts-about-dropping-out
² http://www.sheknows.com/parenting/articles/821041/More-kids-graduating-from-high-schools
³ http://theaucus.blogs.nytimes.com/2010/03/01/obama-takes-aim-at-school-dropout-rates/
The challenge to the K–12 education community is to identify strategies and programs that keep students in school and help them become competitive in the job market by the time they graduate. This requires reaching and motivating potential dropouts and providing students with a clear connection between what they are learning and access to employment as well as post-secondary programs. According to a 2009 report from the Alliance for Excellent Education, a lack of student engagement is predictive of dropping out, even after controlling for academic achievement and student background.

Today, a major goal of the U.S. Department of Education is to ensure that students are "career ready" when they graduate from high school or college. The importance of this is highlighted in a research study from the University of California, Santa Barbara that showed high schools need to link strong academics with engaging instruction and real-world relevance. Through this approach, schools can devise programs that offer students more stimulating learning environments that keep students in school and drive success after graduation.

In a report released in February 2011, the two-year Pathways to Prosperity Project from the Harvard Graduate School of Education concluded that the U.S. education system is failing to prepare millions of young people for a successful career with the one-size-fits-all emphasis on a college education. While up to 70% of high school graduates go to college\textsuperscript{12}\[t\]he problem is completion: nearly half of those who enroll leave without a degree.\textsuperscript{13}

The U.S. President in a recent speech acknowledged that the "college for all" rhetoric that has been so much a part of the current education reform movement needs to be significantly broadened to become a "post high school credential for all."\textsuperscript{14}

The Georgetown Center has estimated that 14 million job openings will be created by 2018—with nearly half of those being filled by workers with post-secondary education: This includes an "Associate’s degree or occupational certificate."\textsuperscript{15} The credential can be the Adobe Certified Associate certificate.

The Strategy—Career and Technical Education (CTE)

CTE is proving to be one strategy that works for students, engaging them with relevant, exciting programs and motivating them to stay in school with a clear benefit to their futures and preparing them to participate fully in the 21st century economy.

"...[C]areer tech education, we know, addresses two very important issues; it fulfills the needs of the workforce and also it fulfills the needs of the students by giving them multiple pathways to success. A lot of students, it’s very clear, have said that they are dropping out because they don’t find anything interesting in school, or they have no interest in going to a four-year college."— former California Governor Arnold Schwarzenegger\textsuperscript{16}

Amid today’s rocky economic climate, rapid technological advances, governmental pressure, and increasing globalization, schools and teachers face greater challenges in preparing students for the future. Effective CTE programs reflect the reality of the changing workplace and give students ways to explore career options, build transferable skills, and access multiple paths to success—all while supporting businesses and economies with a more qualified workforce. While there are career-themed high schools, most CTE programs are using the career academy model to offer students a wide range of opportunities. These programs integrate academics with technical know-how in an occupation or industry that has important ties to the local region.

\textsuperscript{8} http://www.all4ed.org/files/GraduationRates_FactSheet.pdf
\textsuperscript{9} http://casn.berkeley.edu/resource_files/ca-dropout-project410-06-03-12-54-51.pdf
\textsuperscript{10} http://economix.blogs.nytimes.com/2010/04/28/college-enrollment-rate-at-record-high/
\textsuperscript{13} http://www.huffingtonpost.com/2011/02/02/pathways-to-prosperity_re_n_817374.html
\textsuperscript{14} http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperity_Feb2011.pdf
\textsuperscript{15} http://casn.berkeley.edu/resource_files/ca-dropout-project410-06-03-12-54-51.pdf
Established more than 30 years ago, career academies have become a widely used high school reform initiative intended to keep students engaged in school and prepare them for successful transitions to postsecondary education and employment. Typically serving students from grades 9 or 10 through grade 12, career academies combine academic and technical curricula around a career theme, and establish partnerships with local employers to provide work-based learning opportunities. There are estimated to be more than 7,000 career academies operating across the U.S.xvii

Career academies must adhere to federal and state guidelines for quality and content. The U.S. Congress sorted all the possible career pathways into broader occupational themes and organized them into 16 career clusters outlined in the Carl D. Perkins Career and Technical Education Act of 2006, also known as Perkins IV. Perkins IV helps states and districts offer programs to develop the academic, vocational, and technical skills of students in high schools, community colleges, and regional technical centers through its Title I and Title II grants in the U.S.

Students in each grade level from 9 to 12 are scheduled together for a core set of academic classes and technical classes focused on a program theme, which could include biotechnology, business, health, information technology, media and communications, and many others. The school curriculum is connected to the world of work through internships, mentorships, and field trips.

CTE Results

CTE programs must include an evaluation measure of student skills. Perkins IV funding requires each state to establish and report annually on the results of these evaluations. One accepted method of valuation is to "Complete a State or Industry-Recognized Certification or Licensure." Professional Certifications have become an important new indicator of job readiness in many industries.

The results in CTE programs are very encouraging. CTE programs can inspire and re-engage students who likely would have dropped out of school. Instead, these students are graduating with diplomas and real-world job skills, and with industry certifications to back up the skills, giving them an even greater confidence in their abilities and making them more attractive to potential employers.

Reducing the Dropout Rate

Reducing the dropout rate is one long-term benefit of CTE, which is reflected in the reduction of dropouts from these programs. In a California study, high school dropout rates in [career] academies averaged 7% to 8% over three years—about half the rate in the general population—despite the fact that state-funded academies are required to recruit a majority of students who are economically or educationally disadvantaged.xviii

Data from the National Center on Education Statistics show that students living in low-income families drop out of school at 10 times the rate of their peers from higher-income families.xix

A study by the Manpower Development Research Corporation found that among students most at risk, 79 percent of academy students stayed in school through spring of senior year, compared with 68 percent of the control group (Chart 1).xx Eight years after high school, students assigned to academies had average monthly earnings of $2,112, compared with $1,896 for the control group. (Chart 2)xxi

xvii http://www.edutopia.org/stw-career-technical-education-research-roundup#stern
xviii http://casn.berkeley.edu/resource_files/Proven_Strategy_2-25-1010-03-12-04-27-01.pdf
District and School Benefits

District and school benefits are found in these reduced dropout rates and the resulting increase in school improvement statistics. With fewer students dropping out, individual schools retain more Average Daily Attendance (ADA) funding, which supports critical school curricula. Recognizing that most students who drop out leave in the middle of 10th grade, a report done for the American Association of Secondary School Principals found that there was a total of 450 school days missed per dropout. With an estimated $40/day lost in ADA funding for each student no longer in school, this results in a substantial loss for the school of $18,000 per dropout.

Most importantly, the district can succeed with students it had been unsuccessful in motivating to finish school. Students participating in CTE are remaining in school and gaining skills that will help them succeed in the job market and in postsecondary education.

The State of Florida began a concentrated focus on CTE after a study of the state's high school graduates between 1996 and 2006 indicated that 66% of graduates did not complete post secondary education. In response, the State Board of Education instituted a new policy—if a student was not enrolled in an Advanced Placement or Honors course, he or she would take CTE for at least three years and earn an industry certification.

Adobe Solutions in Action: Brevard County, Florida

The Brevard County Public Schools in Florida became interested in CTE programs after examining information about its own students after graduation. With the numerous technology companies and organizations along Florida’s Space Coast—from the space program to defense contractors—the need for skilled employees in the areas of graphic design and illustration for a wide range of projects was evident and growing. Brevard’s district leadership saw CTE programs as a great opportunity for students to learn valuable 21st century skills and be more competitive in the local job market.

Brevard chose Adobe Creative Suite, according to Dr. David Baldaia of the Brevard County School District’s CTE program, because, “[it] is the industry standard in the world of digital media, so we provide those tools for our students to learn the concepts and skills that they need to know to be optimally prepared and positioned for success in postsecondary education and the workforce.” The CTE curriculum from Adobe is designed for students to develop key digital communication skills using Adobe Creative Suite Master Collection software.

The Adobe Visual Design Curriculum was selected for Brevard County’s CTE program. The curriculum aligns with the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) for Students (2007) and includes the new Adobe Certified Associate (ACA) objectives to prepare students for certification. In addition, the curriculum alignment to existing Florida state standards via the ISTE standards gave the county school board the necessary confidence to approve the curriculum.

During the program, students have the opportunity to earn the Adobe Certified Associate credential—recognized as the entry certification in creative design. Today, four of the district’s 16 high schools—Viera, Palm Bay, Satellite, and Bayside—offer some form of digital arts and media education with Adobe certifications. At Brevard, “One benchmark for our strategic plan is by 2013, 90% of all high school graduates completing a CTE Program of Study will be eligible for an industry certification,” stated Dr. Baldaia.

Class assignments include collages and photography, logos, business cards, advertisements, portfolios, brochures, and newsletters along with digital audio, video, and motion graphics assignments. The work that students create is stored in a portfolio that they can use when applying to a postsecondary school or for a professional position.

Pete Episcopo, digital arts and media instructor at Viera High School in Brevard, likens his classroom to a Lucasfilm post-production room, with equipment representative of what students will be working with in the industry.

Within this three- to four-year program, students begin testing for the Adobe Certified Associate (ACA) certification during the second year. The certificate is a skills assessment and can be taken multiple times to gauge a student’s level of understanding. In the 2009–2010 school year, students had a 100% passing rate at year three.

**Student Success**

One of the CTE students at Viera High School wanted to attend an Ivy League school for college. But she went to her back-up school, the University of South Florida, as a freshman. When she reapplied to the Ivies the following year, the admissions group at the University of Pennsylvania saw the Adobe Certificate on her application. The certificate got her the interview she needed and got her the invitation to attend an Ivy League school, which had been her goal.
Of the graduates, 90% now go on to postsecondary schools. Taking advantage of local resources, the school district has negotiated an articulation agreement with Brevard Community College that provides students who have the certificate six credits in graphic design prior to taking a single class.

In the CTE program, 99% of the students graduated. “This course actually keeps them in school,” says Episcopo, “They know this is what they want to do now. Some may take a CTE class three times a day!”

As a whole, Brevard Public Schools had the second highest graduation rate in Florida for school year 2009–2010 out of 67 school districts at a rate of 95.25%.

Rigorous CTE Approval

The New York State Education Department (NYSED) implemented a rigorous CTE approval process in 2001 to ensure programs throughout the state meet the highest standards. The state carefully evaluates CTE program design, requiring a three-part technical assessment that consists of written, demonstration, and project components. In addition, final exams must be authorized by academic and industry partners to make certain they include relevant skills, meet aptitude standards, and give students opportunities to earn official certifications.

In response to the state’s CTE approval process, the New York City Department of Education (NYCDOE) needed to ensure its students had the professional digital skills to enter the workforce and pursue higher-education goals and to make certain its CTE programs would meet state requirements. It included Adobe industry-standard software and certification solutions in its CTE programs, offering web design and graphic arts students Adobe® Creative Suite® software and Adobe Certified Associate certification, the recognized credential for Adobe Dreamweaver®; Flash® Professional, and Photoshop®

When NYSED learned Adobe Certified Associate exams are comprised not only of multiple-choice questions but also of hands-on, demonstrative questions, it approved the exams to fulfill both the written examination and student-demonstration technical assessment requirements. Further, the state approved the use of ACA certification for both two-year and four-year web design and graphic arts CTE programs throughout the state.

A Strong Foundation for CTE

The majority of funding for career technical education comes from the Carl D. Perkins Career and Technical Education Act of 2006, commonly known as Perkins IV, which envisions that all students will achieve challenging academic and technical standards and be prepared for high-skill, high-wage, or high-demand occupations in current or emerging professions in the global economy of the 21st century.

Each year, the U.S. Congress appropriates roughly $1.1 billion dollars in Perkins Basic Grant funds with another $102 million in Title II Ed Tech grants. These allocations are based on a formula related to the numbers of eligible students in the state. State Departments of Education then release applications to local districts. Applications must be completed and returned by June 30th each year.

Perkins IV funding is used for:

• Developing, improving, or expanding the use of technology in career and technical education

• Integrating academics with career and technical education

• Providing preparation for non-traditional fields in current and emerging professions.

Under the regulations for Perkins, school districts must have a local plan for CTE that includes full descriptions of the programs to be funded. The plan is updated during the annual district application process.

Perkins IV identifies 16 career clusters that are occupational categories with industry-validated knowledge and skills statements that define what students need to know and be able to do in order to realize success in a chosen field.

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Perkins IV Career Clusters

1. Agriculture, Food, and Natural Resources
2. Architecture and Construction
3. Arts, Audio/Visual Technology and Communications
4. Business, Management, and Administration
5. Education and Training
6. Finance
7. Government and Public Administration
8. Health Science
9. Hospitality and Tourism
10. Human Services
11. Information Technology
12. Law, Public Safety, Corrections, and Security
13. Manufacturing
14. Marketing, Sales, and Service
15. Science, Technology, Engineering, and Mathematics
16. Transportation, Distribution, and Logistics

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*The FY 2010 state Perkins IV allocations can be found at [http://cte.ed.gov/docs/Perkins IV - Estimated FY 2010 Allocations - 3-11-10.pdf](http://cte.ed.gov/docs/Perkins IV - Estimated FY 2010 Allocations - 3-11-10.pdf).*
One cluster, Arts, Audio/Visual Technology and Communications, opens opportunities in a variety of industries. Activities in this cluster involve developing and producing multimedia content, performing arts, journalism, and entertainment. Specialties range from actors to newscasters to website developers. Industries include Audio and Video Technology and Film, Printing Technology, Visual Arts, Performing Arts, Journalism, and Broadcasting and Telecommunications.

The Information Technology cluster is focused on technical and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services. There is a growing need for Information Technology professionals in a wide range of industries and businesses.

### Measuring Effectiveness

Evaluation is an important principle for career technical education. By law, programs must include evaluation measures. Perkins IV funding requires each state to establish and report annually on core indicators of performance. One option for evaluation is to "Complete a State or Industry-Recognized Certification or Licensure."

Professional certification has become an important new indicator of job readiness in many industries. The Adobe Certified Associate certificate is a well-recognized validation of skills in various digital media arenas. In some states, most notably Florida and New York, state-level funding provides for a reimbursement to the district for each student who earns an industry-recognized credential—such as an Adobe Certified Associate. Florida reimbursed districts $1,100 per certificate earned in the 2009–2010 school year.

Career programs built around Adobe digital media capture the imagination of students who may be otherwise unengaged in school. Their day-to-day lives are filled with technology-based sights and sounds. They are the media generation—three quarters of all 8- to 18-year-olds have an iPod, two-thirds have cell phones, over half have a handheld video game player, and nearly one-third have laptops. Websites like YouTube have created a nation of creative content publishers of all ages. Students are attracted to Adobe programs that help them use media in new and interesting ways.

### A Comprehensive CTE Solution from Adobe

The complete Adobe CTE solution provides the backbone of a digital media arts program, including:

- The industry-standard in digital media software
- Curriculum approved by the International Society for Technology Education (ISTE)
- Certification of student skills with a professional-level exam, the Adobe Certified Associate certificate

Choosing Adobe Creative Suite incorporates the world’s most widely used design software into a school’s Digital Media Career Academy.

Educational resources from Adobe are available through guides, lessons, and online support that make initiating a Digital Media Academy easy and instantly productive.

In the classroom, free curriculum resources are available for digital media programs.

### Adobe Project-based Curricula

Visual Design is a year-long, project-based curriculum that develops skills in design and print production using Adobe tools. Teachers use the curriculum as a part of graphic design programs or in more general CTE offerings as part of a larger curriculum.

Visual Design develops key digital communication skills such as creative design, project management, and graphic and print technology. Each project builds on lessons previously learned. Visual Design aligns with the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) for Students (2007) as well as the new Adobe Certified Associate Visual Communication objectives to prepare students for certification.

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**xviii** [http://www.careerclusters.org/16clusters.cfm](http://www.careerclusters.org/16clusters.cfm)
Digital Design is a year-long, project-based curriculum that develops skills in web design and production using Adobe web tools. Teachers can use the curriculum in web design education or in more general CTE programs.

Digital Design develops key digital communication skills such as creative design, project management, and web technology. Each project builds on lessons previously learned. Digital Design also aligns with the ISTE-NETS 2007 as well as the new Adobe Certified Associate Web Communication and Rich Media Communication objectives to prepare students for certification.

Digital Video is a year-long, project-based video curriculum that develops career and communication skills in video production using Adobe tools. Teachers use the curriculum in CTE courses—or any other course that can involve the use of video.

The Digital Video curriculum develops knowledge in storytelling, capturing, and editing video and audio, and finalizing content for DVD or web through emphasis on design, project management, and video technology. Each project builds on lessons previously learned. The Digital Video curriculum aligns with the ISTE-NETS 2007.

Online, the Learn by Video series is a complete training program for Adobe Photoshop, Dreamweaver, and Flash Professional that is listed as Adobe Certified Associate Approved Courseware. The training teaches not only the fundamentals of each product, but also the basic principles of digital media communications. Each title provides up to 19 hours of training.

A Closer Look at the Adobe Certified Associate (ACA)

The Adobe Certified Associate designation is a highly regarded indicator of expertise in the use of Adobe products and offers a powerful entry-level credential to job seekers.

ACA exams evaluate proficiency in the following areas:

- Visual Communication using an Adobe Photoshop exam validates entry-level skills in communication corresponding to Adobe Photoshop software.
- Web Communication using an Adobe Dreamweaver exam validates entry-level skills in communication corresponding to Adobe Dreamweaver software.
- Rich Media Communication using an Adobe Flash Professional exam validates entry-level skills in communication corresponding to Adobe Flash Professional software.
- Video Communication using an Adobe Premiere Pro exam validates entry-level skills in communication corresponding to Adobe Premiere Pro software.

Earning the Adobe Certified Associate designation demonstrates basic, entry-level skills with Adobe digital media software and meets the evaluation requirements of Perkins IV. James Cooper, curriculum specialist for the School District of Palm Beach County, noted, "It shows [students are] capable of learning in a business environment and the [tools] that are used within the industry."

ACA exams go beyond simply testing how to use a product and its features—for example, how to use Photoshop—and delve into the project management and communication skills that an individual would need for a career using these tools. To continue the Photoshop example, the student would be asked to describe how she or he would manage a project for a client and what types of communications would be necessary to successfully execute the task. It’s not just “can you use Photoshop,” but “how would you use Photoshop?” and project management, design and communications skills from the Digital Media Program to complete a digital design project from start to finish.

Rob Schwartz, the communications technology teacher at Seminole Ridge High School in Palm Beach County, Florida, brought the Adobe Certified Associate program on board when it first launched in 2007. Right away, he noticed the difference in students who achieved the certification. They were more self-reliant and took on challenging assignments without a lot of hand holding. "The certificate works like magic," he said. "Number one, it builds a lot of confidence because it isn’t just a grade or a teacher saying [they’ve] mastered something. ... Here’s industry saying [they’re] certified."
Schwartz uses a combination of Certiport™ for Adobe Certified Associate practice exams and the curriculum included in the Classroom License with some video tutorials he created to help prepare students to achieve the certification in the first half of school year.

Adobe recognizes the need for affordable solutions in public education and offers the Adobe Classroom License for the ACA certification as noted above. Under this license, earning Adobe Certified Associate costs the district roughly $12 per student. The certification program is recommended for college credit by the American Council on Education (ACE).

The Classroom License permits schools to use an unlimited number of certification exams within the confines of a 30-seat computer classroom. Students can take the same exam multiple times to pass and move on to the next certification; for example, go on to Adobe Flash Professional after achieving Adobe Dreamweaver. Without a cap on the number of exams that can be taken during the yearly license period, schools can have as many students as they can support participate.

“There is a tremendous cost savings to us,” said James Cooper, curriculum specialist of the School District of Palm Beach County, “[Our district’s administrators] were extremely impressed with the cost of the district site license versus paying for every individual exam.”

ACA is administered by Certiport, which enters into a relationship with the school district to provide practice tests and exams for the Adobe-based academies.

Last year, approximately 230 of Cooper’s students became certified. He credits the use of the unlimited exams in the Classroom License with his ability to help three-quarters of the class achieve a certification last year. “If the students [were] unsuccessful the first or second time, we could go back and re-train,” he said.

Starting a Digital Media Career Academy

Starting a Digital Media Career Academy requires coordination of district and school-based personnel as well as community and business partners. The district is responsible for managing the Perkins IV funding. The school site is responsible for creating the program, cultivating and working with business partners, managing the program, and reporting requirements. Most districts will have a Career Technical Education or Vocational Education Department and program director or manager who manages the funding. In smaller districts, an assistant superintendent may be in charge of CTE.

While available funding is essential for developing successful programs, the first step is to identify local industries and occupations that might provide work experiences for students and jobs in the local area. In addition to the obvious film and video careers, many large companies are developing their own media groups to create digital resources for the business.

The second step is to identify in-school partners—faculty and administrators who will work together to assure that the program prepares students both academically and within the career academy skill area. In collaboration with the team, curriculum and program planning come together in a project that can be written into the Local Career Technical Education Plan and from there, receive Perkins IV funding.

Every year, each district is required to file or update its local CTE plan that fully describes the district’s programs and costs. Among the components of the local plan will be the program description, goals and activities, and evaluation plan for each offering.