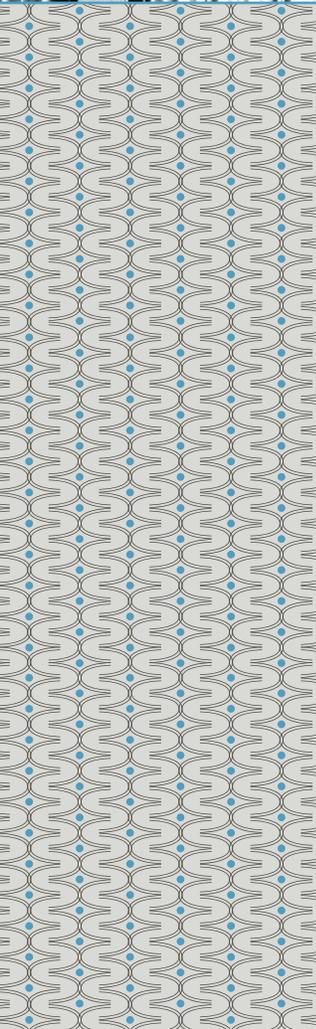


## Career and Technical Education's Role in Dropout Prevention and Recovery

### IN THIS BRIEF:

This issue brief will explore the critical role that career and technical education plays in dropout prevention and recovery. High quality career and technical education can help more students persist in and complete high school by preparing them for the postsecondary education and training that will be critical to future economic successes; by increasing student engagement; by building positive relationships; and by providing innovative delivery methods.



In the past 50 years, high school completion has grown in importance—moving from the 1950s, when a high school diploma was a valued asset in the labor market; to the 1970s, when a diploma opened doors to promising careers; to recent years, when advances in technology have transformed the labor market into one that demands highly skilled workers with, at minimum, a high school diploma.<sup>1</sup>

At a time when economic conditions require a workforce of lifelong learners who can quickly gain the knowledge and skills needed to work with new technologies in emerging careers, a high school diploma—at the very least—is critical for any individual who wishes to compete in the 21st century workforce. Yet alarmingly, recent research finds that nearly one in every three students who start high school in the ninth grade fails to complete the 12th grade within four years. Literally millions of young people are out of school and grossly ill equipped to compete in the 21st century workforce and economy.<sup>2</sup>

## The Concerns

### STAGGERING DROPOUT RATES

For years, there has been no common measure for collecting high school graduation rate data, and the data that did exist was often misleading. According to the National Center for Education Statistics, the status dropout rate (the percentage of individuals, age 16–24, who are not enrolled in high school and who lack a high school credential) was 10.7 percent in the United States—some 3.8 million of the 35.2 million young people between the ages of 16 and 24 in 2001.

However, in recent years, numerous studies, such as those conducted by the Manhattan Institute and the Educational Testing Service, estimate that the national high school completion rate is far lower, averaging around 70 percent. Roughly one-third of the students who enter the ninth grade fail to complete high school within four years, and the United States



“Every day in the United States, 7,000 students drop out of school . . . Unless high schools are able to graduate their students at higher rates than the 68 to 70 per cent they currently do, more than 12 million students will drop out during the course of the next decade. The result long term will be a loss to the nation of \$3 trillion, and as you can imagine, even more in terms of the quality of life for those dropouts.”

—SENATOR MIKE ENZI (R-WY), MARCH 7, 2007

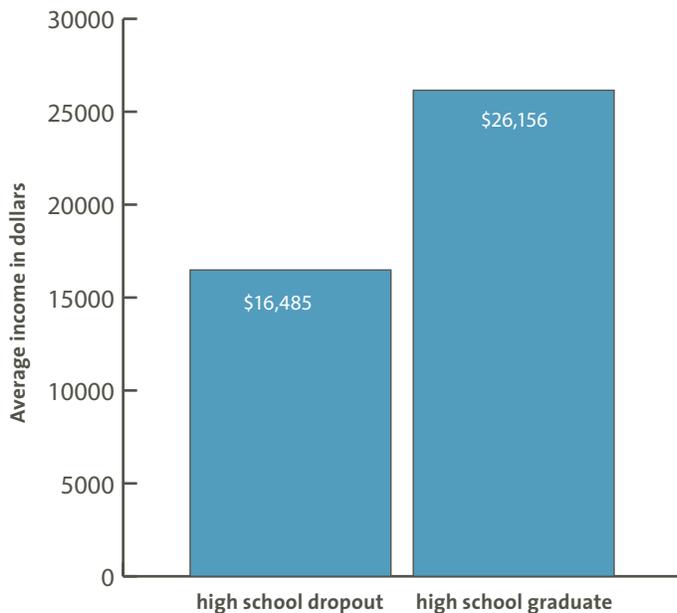
has now slipped to 10th place in the world in high school completion.

Research paints an even grimmer picture for minorities. A 2004 report, *Losing Our Future*, by The Harvard Civil Rights Project found that graduation rates are substantially lower for most minority groups, particularly for males. According to the report, only 50 percent of black students, 51 percent of Native American students, and 53 percent of Hispanic students who enter ninth grade graduate from high school with a regular diploma by the end of the 12th grade. Males in these minority groups fared even worse, with 47 percent of black males, 47 percent of Native American males, and 48 percent of Hispanic males failing to obtain a regular diploma by the end of the 12th grade.<sup>3</sup>

Graduation rates are significantly lower in districts with higher percentages of low socioeconomic status students, those eligible for free or reduced-price lunches.<sup>4</sup> Other



### Average Annual Income: 2004



From *Educational Attainment in the United States: 2005*, U.S. Bureau of the Census, Table 8.

predictors of students who are more likely not to graduate from high school include poor academic performance, repeating a grade, speaking English as a second language, becoming pregnant, having a large number of absences, and being physically or mentally impaired.<sup>5</sup>

### INCREASED PERSONAL AND PUBLIC COSTS

The large numbers of students who are dropping out of high school each year present more than just an educational challenge. Not completing high school results in increased costs for the individual, and for the country as a whole.

Most directly, those who fail to complete high school are less likely to be employed and earn less than those that earn a diploma. The average annual income for a high school dropout in 2004 was \$16,485, and the average annual income for a high school graduate was \$26,156, an increase of \$9,671.<sup>6</sup> Over the course of a career, this results in a loss of \$260,000 in earnings for an individual who fails to complete high school.<sup>7</sup> High school graduates also have an increased life expectancy, and are less likely to need public assistance.<sup>8</sup>

However, as high as these individual costs might be, the U.S. economy and society also suffer. Annual losses to the U.S. economy exceed \$50 billion in federal and state income taxes for all 23 million U.S. high school dropouts age 18–67.<sup>9</sup> The Alliance for Excellent Education estimates that, at current dropout rates, the U.S. economy could lose more than \$3 trillion during the next decade.<sup>10</sup> Increasing high school graduation rates would not only help put more individuals on the path to success, but would also ensure that the American economy stays strong.

High school graduates are more likely to raise healthier, better-educated children, and are less likely to be teen parents.<sup>11</sup> Society reaps the rewards of increased graduation rates as high school graduates are also less likely to commit crimes<sup>12</sup> and more likely to engage in civic activity, includ-

ing voting and volunteering.<sup>13</sup> Increasing the male graduation rate by only 5 percent would result in \$4.9 billion in crime-related costs savings annually.<sup>14</sup>

When young people drop out of the educational system, the likely result is that they drop in to other systems such as the criminal justice and welfare systems. Research shows that dropouts are more likely to be “unemployed, living in poverty, receiving public assistance, in prison, unhealthy, divorced, and ultimately single parents with children who drop out from high school themselves.”<sup>15</sup>

## CTE Provides a Solution

High quality career and technical education (CTE) can help more students persist in and complete high school, preparing them for the postsecondary education and training that will be critical to future economic successes.

*Dropping Out of High School and the Place of Career and Technical Education*, an October 2005 report by the National Research Center for Career and Technical Education, found that students who entered high school at a normal or younger age had a decreased risk of dropping out of high school as they added CTE courses to their curriculum, up to a point at which they were taking one CTE course for every two academic courses. The report suggests that this mix of CTE and academic courses lowers the dropout rate for students because the course balance offers them a broader array of experiences that can identify and encourage pathways to success.<sup>20</sup>

Another study conducted in 1998 by the University of Michigan found that high-risk students are eight to 10 times less likely to drop out in the 11th and 12th grades if they enroll in a career and technical program instead of a general program. The same study also reported that a quality CTE program can reduce a school’s dropout rate by as much as 6 percent, and that CTE students are less likely than general-track students to fail a course or to be absent.<sup>21</sup>

Through its research, The National Dropout Prevention Center/Network has identified 15 strategies that have the most positive impact on the dropout rate. These strategies include:

- systemic renewal
- safe learning environments



## The Costs of Dropping Out

<b>Employment:</b>	High school dropouts are 15 percent less likely to be employed and earn almost 30 percent less than their diploma- or GED-holding peers. <sup>16</sup>
<b>Earnings/Tax Liability:</b>	Over a lifetime, a high school dropout pays about \$60,000 less in taxes. <sup>17</sup>
<b>Criminal Justice:</b>	About 75 percent of state prison inmates, almost 59 percent of federal inmates, and 69 percent of jail inmates did not complete high school. <sup>18</sup>
<b>Health:</b>	Those who graduate from high school live more than nine years longer than high school dropouts due to factors that include improvement in cognitive ability and decision making, income, occupational safety and access to health insurance. <sup>19</sup>

- family engagement
- early childhood education
- early literacy development
- mentoring/tutoring
- service-learning
- alternative schooling
- after-school opportunities
- professional development
- active learning
- educational technology
- individualized instruction
- CTE<sup>22</sup>

Not only does The Dropout Prevention Center/Network note CTE specifically as one of its 15 strategies, but many of the other strategies are important components of CTE programs, such as individualized instruction, service-learning, community collaboration, mentoring, active learning, and educational technology. According to the Center, “A quality CTE program and a related guidance program are essential for all students.”

CTE was identified to have five potential benefits to at-risk students by Schargel and Smink in *Strategies to Help Solve our School Dropout Problem*. These benefits include enhancement of students’ motivation and academic achievement; increased personal and social competence related to work in general; a broad understanding of an occupation or industry; career exploration and planning; and acquisition of knowledge or skills related to employment in particular occupations or more generic work competencies.<sup>23</sup>

Students appear more likely to stay in school if they can

grow attached to a pathway to acceptance and success that meets their interests. CTE increases student engagement, builds positive relationships, and provides innovative delivery methods for students who have failed, or are in danger of failing, to complete a high school diploma.

### INCREASING STUDENT ENGAGEMENT

Students drop out of high school for a number of reasons, such as family problems, to find a job, substance abuse, or because they have fallen behind in their course taking or have received failing grades. However, another significant reason for dropping out is emerging. Many students lose interest and motivation in education because the curriculum does not seem to have a real-world application. Academics are often presented in isolation, instead of in a way that shines a spotlight on how the subject is applicable in the context of the real world.



At Mid-Del Technology Center in Midwest City, Oklahoma, there are two alternative education programs designed to prevent students from dropping out of school. Students Taking Action to Return to School (STARS) is a program for students age 16–21 who have not succeeded at traditional high schools. The program serves approximately 30 students, and combines an academic component with occupational training. Students spend half of the day in academic subjects and receive individual and career counseling. They spend the remainder of the day receiving occupational training in a CTE program. Students can also access the Technology Resource Academic Center to get assistance with applied academics that relate directly to a student’s specific training program.

Mid-Del’s New Beginnings program is for pregnant teens in the Mid-Del School District. The program provides alternative academic instruction as well as counseling, career exploration and occupational training to help these students complete high school. It also provides young women with the knowledge they will need to ensure a healthy pregnancy and a healthy baby. The program works to provide positive self esteem, and goal-setting and decision-making skills, reducing the likelihood of repeat pregnancies during adolescence. Mentors give the young women examples of positive adult role models, while job shadowing opportunities help them explore career possibilities.

Since transportation and childcare are two of the biggest obstacles to teen parents completing high school, Mid-Del has a licensed nursery located on its campus that provides day care at no charge to the students. Both mothers and infants can ride to school on school district buses with seat belts and car seats provided. To earn the privilege of using the New Beginnings day care center, however, students must successfully complete the New Beginnings Child Care Curriculum, which includes laboratory assignments. To maintain their day care privileges, students must continue to be enrolled in some type of career education class.

Focus groups of dropouts age 16–24 conducted for a recent report, *The Silent Epidemic*, found that 47 percent of those surveyed said that they dropped out of high school because classes were not interesting. Furthermore, 69 percent of those surveyed indicated that they did not feel motivated. Within both of these findings, the report states that respondents consistently noted how they felt that school did not seem relevant. For example, one student stated that “they make you take classes in school that you’re never going to use in life.”<sup>24</sup>

A 2006 poll of at-risk California ninth- and 10th-graders found that six in 10 respondents were not motivated to succeed in school. Of those students, more than 90 percent said they would be more engaged in their education if classes helped them acquire skills and knowledge relevant to future careers.<sup>25</sup>

In North Carolina, a March 2007 poll of likely voters showed that 91 percent favored expanding CTE programs specifically to make school more attractive to students thinking of dropping out.<sup>26</sup>



### Top Five Reasons Dropouts Identify as Major Factors For Leaving School

Classes were not interesting  
**47%**

Missed too many days and could not catch up  
**43%**

Spent time with people who were not interested in school  
**42%**

Had too much freedom and not enough rules in my life  
**38%**

Was failing in school  
**35%**

From *The Silent Epidemic* Bridgeland, John, John Dilulio Jr., and Karen Burke Morison, p. 3.

What the research suggests is that today's CTE offers students relevant learning experiences that answer the age-old question "Why do I have to learn this?" while at the same time enhancing students' academic achievement and meeting industry needs.

In 2003, a report released by the Advisory Committee for the National Assessment of Vocational Education stated that, "CTE empowers students by providing a range of learning opportunities that serve different learning styles. . . . For many students, applying academic and technical skills to real-world activities . . . and being able to see how their learning is related to the world of work make CTE classes more interesting and motivating, and more educationally powerful than standard academic classes."<sup>27</sup>

## BUILDING POSITIVE RELATIONSHIPS

The Bill and Melinda Gates Foundation coined the "rigor, relevance and relationships" phrase as the answer to improving the country's schools. While rigor often receives the most attention, relevance and relationships are critical as well. The Gates Foundation states that "all students need adult mentors who know them, look out for them, and push them to achieve."<sup>28</sup> Students need to be known as individuals within the school community and be connected to their peers and to positive adult relationships. In the *2006 High School Survey of Student Engagement*, 24 percent of students who have considered dropping out of high school cited the reason "No adults in the school cared about me."<sup>29</sup>

One of the leading efforts in building positive adult-student relationships is the growth of smaller learning communities. Smaller learning communities with a focus on CTE, often known as career academies, have been found to increase the attendance rate and the likelihood of staying in school for students who entered the programs at high risk of dropping out. In 2004, a study conducted by MDRC, a nonprofit, nonpartisan social policy research organization, found that "career academies significantly cut dropout rates and increase attendance rates, credits earned toward graduation, and preparation for postsecondary education." The career academy group's dropout rate was reduced by one-third from the rate for the non-academy group.<sup>30</sup>

Another core component of CTE is the long-standing



William H. Turner Technical Arts High School in Miami, Florida, serves a diverse student body of 1,800 students. Turner Tech is a school of choice that recruits students who have demonstrated a strong interest in a technical area. Because of its history as an alternative school, however, many of its students enroll because they have not been successful elsewhere.

Despite their history, these students have been able to succeed at Turner Tech. The smaller learning communities within the career academy model the school employs, where students choose one of seven areas that interest them, give students more personalized attention and provide valuable career exploration opportunities. In addition to their classroom work, Turner Tech students participate in hands-on experiences in the workplace. They spend time during their junior and senior years in a work experience, mentorship, community service or internship program, and may be placed in jobs related to their fields of study in the summer.

Through business advisory committees, the business community interacts with the students, and the students get added insight and positive adult interaction. Student interest in postsecondary education is encouraged, and beginning in their junior years, students have the opportunity to participate in college courses at Miami-Dade Community College. As part of a capstone program, students do a project in the 11th grade. They get a mentor and then research a problem and come up with a hypothesis and a solution. In their senior years, the students must do an exhibition—they go through a job interview and display their portfolios during a process in which the members of the business advisory committees act as panelists.

When a student is at risk of failing or dropping out, a team of professionals steps in to prevent it. Turner Tech is proving the case for the role of CTE in dropout prevention, with dropout rates that fall far below the average in the urban district.

existence of Career and Technical Student Organizations (CTSOs) that engage students in co-curricular activities that are closely related to CTE classroom programs. Young people involved in these CTSOs number close to 2 million, and each work regularly with an adult adviser to prepare for local, regional and national competitions; take on student leadership roles in the organizations; and develop a range of project management, public speaking, and leadership skills. A recent study found that CTSO activities positively affect students' academic engagement, and the stronger the student's involvement, the better the results.<sup>31</sup>

Mentoring and providing positive relationships with adults in the broader community are also hallmarks of quality CTE programs. Whether through a formal mentoring program, or by placing students in job shadowing or internship opportunities, CTE links students to the community in ways that many other high school programs cannot. MENTOR, an organization focused on the expansion of mentoring activities nationwide, concludes that given their benefits, such as positive association with students' grade point average, attendance rates, self-esteem and the feeling that school

was relevant to work, “work-based mentoring efforts are important strategies for helping high school students make a smooth transition to adulthood.”<sup>32</sup>

## PROVIDING ALTERNATIVE DELIVERY METHODS

CTE has been at the center of numerous alternative delivery methods that attempt to address the dropout issue, such as magnet schools, smaller learning communities, middle college high schools, and accelerated programs. These programs often seek to provide the more relevant curriculum that leads to increased student engagement, and the positive adult-student relationships that can motivate student success.

However, with approximately 3.8 million young adults

ages 18–24 already out of the education pipeline without a high school diploma and without employment,<sup>33</sup> dropout prevention efforts alone are not enough to address the growing educational crisis in America. Efforts must be made to reconnect out-of-school youth and help them to attain the credentials necessary to create economic and career success.

For many students who have not received a high school diploma, GED programs provided through adult education are the only option. However, research has shown that individuals who have a GED as their highest credential earn less than those who have a regular high school diploma. In 2001, average monthly earnings of GED recipients working full time were \$2,387, while average monthly earnings of high school diploma recipients were \$2,560, a 7 percent increase. While attaining a GED grants entry into most community and technical colleges and puts many students on a path to further education and more successful careers, more students who earn a regular high school diploma go on to postsecondary education than those that earn a GED, further widening the future earnings gap.<sup>34</sup>

Returning to school to gain a high school diploma is no easy task for disconnected youth. Not only were many of these individuals unsuccessful academically in their original high school environment, but they also face a large number of other social and economic barriers, such as lack of transportation, single parenthood, or health problems.

The education system must provide a continuum of flexible interest-based learning opportunities that utilize effective teaching methodologies and respond to these students’ varied needs and life circumstances. The American Youth Policy Forum identified eight characteristics of successful dropout recovery programs in its publication, *Whatever it Takes*. These characteristics include:

- open-entry/open-exit
- flexible scheduling and year-round learning
- teachers as coaches, facilitators, and crew leaders
- real-world, career-oriented curricula
- opportunities for employment
- clear codes of conduct with consistent enforcement
- extensive support services
- a portfolio of options for a varied group<sup>35</sup>

CTE has become a leader in ensuring these flexible, relevant learning opportunities to re-engage students and



The Gateway to Success program at the Great Oaks Institute of Technology, in partnership with the University of Cincinnati’s Clermont College, opened in 2006 to provide high school dropouts with an alternative option to earn a diploma.

Funds for the program are provided by Ohio’s Career-Based Intervention Program, a CTE program for youth who are identified as disadvantaged and who have barriers to achieving academic and career success. About 80 percent of the students in the Gateway to Success program are male, and many had attendance issues, discipline issues, or problems at home. These students did not feel comfortable or welcome at school.

Classes are held on the college campus, and are open to 18–21 year olds from 8:00 a.m. to 8:00 p.m. to meet the diverse needs of this student population. Students may enroll at any time during the year, under the stipulation that they complete 20 hours of on-site coursework per week. Since students may work at their own pace to complete the remaining credits they need for high school graduation, many put in their hours after working full-time jobs during the day, or attend only on specific days when they are able to secure childcare or transportation.

The program starts with an assessment of current skills and review of a student’s high school transcript to determine which credits are needed. The majority of coursework is offered online, and is supplemented by assignments from the program’s teachers to meet state standards for awarding credit. Mastery testing is used to allow students to move more quickly through coursework. Students can also get a jump start on postsecondary education, taking dual enrollment courses in areas relevant to future career interests.

About 50 students participated during the program’s first year, and almost 70 percent of the programs’ participants that took the Ohio Graduation Test passed on the first try. The program receives strong support from the local school districts which actually award the high school diplomas.



“A top priority must be to reverse our dismal high school graduation rates—with a target of doubling the number of young people who graduate from high school ready for college, career and life.”

—BILL GATES, MARCH 7, 2007

provide a real-world, career-oriented curricula. While there are often challenges and disincentives to dropout re-entry programs, all young people should be provided the opportunity for a quality high school education.

## Conclusion

CTE is a proven strategy that educates students in the context of careers and prepares students to succeed in postsecondary education and the workforce. It is also a critical strategy to addressing the nation’s high school graduation crisis. For thousands of high school students, including those who are on the verge of dropping out, CTE offers relevant learning experiences that answer the question “Why do I have to learn this?” while at the same time enhancing students’ academic achievement and meeting industry needs.

By providing relevance and strong relationships between students and the education environment, CTE can be an effective means of ensuring that students complete high school. For those students who have already left the education system, alternative delivery programs designed around CTE provide practical skills and an approach to education that can re-engage disconnected youth.

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