



700 Broadway, Suite 810 • Denver, CO 80203-3442 • 303.299.3600

CTE Dual Enrollment: A Strategy for College Completion and Workforce Investment

By Jennifer Dounay Zinth

March 2014

Dual enrollment programs are expanding – and so are dual enrollment programs with a career and technical education (CTE) focus. The most recent data available from the National Center on Education Statistics show that 82 percent of high schools had students enrolling in dual enrollment coursework in 2010-11. Nearly half of the schools had students participating in dual enrollment with a CTE focus. That translates into roughly 601,500 students enrolled in CTE dual enrollment courses that year.¹

Why CTE dual enrollment matters

Research makes it clear that CTE dual enrollment courses improve outcomes for traditionally underserved students. Specifically, studies find that CTE dual enrollment students are more likely to:

- **Earn a high school diploma.**² One study indicates graduation rates among CTE dual enrollment students were higher than their non-dually-enrolled peers even after controlling for test scores.³
- **Enroll in a bachelor's degree program.**⁴ One study found that CTE dual enrollment course completers in **Florida** were slightly more likely than *all* dually-enrolled students to enroll in a four-year institution – 7.7 percent for all dually-enrolled students versus 8.6 percent for CTE dually-enrolled students.⁵
- **Enroll in college full-time.** Again, one study found CTE dual enrollment students slightly more likely than dual enrollment students generally to enroll in college full-time.⁶ This is important given the body of research suggesting that enrolling in college full-time increases a student's chances of college completion.

State policy components to ensure success

In order to ensure access to CTE dual enrollment programs, and to promote the quality and transferability of the courses, states should consider key policy components:

1. [Responsibility for course fees should not fall to students or parents.](#)
2. [Course content and instructor credentials must mirror those of traditional postsecondary instructors.](#)
3. [Courses should incorporate industry curriculum and standards, and lead to certification.](#)
4. [States should ensure course transferability, both to other public technical schools' CTE programs and for transfer for academic admissions/transfer coursework.](#)

The case for integrating CTE into dual enrollment programs

Some studies have shown CTE dual enrollment may be a particularly effective college completion and workforce investment strategy for low-income students and males.

Analysis of **Florida** data on CTE dual enrollment students discovered that “in many cases, male and low-income students benefitted more from dual enrollment participation than their more advantaged peers.”⁷ Specifically, CTE dual enrollment participation had a greater impact on male than female students in terms of first-year college GPA and persistence to a second year of postsecondary education.⁸

*As eloquently phrased in a [2013 dual enrollment study](#) completed for the state of Tennessee, “Completion goals can only be achieved if all students are part of the postsecondary pipeline. **Ensuring that students who might not have gone to college in the past – low-income students, first-generation college-goers, students who are interested in career and technical education – enter and succeed in postsecondary education is essential to increasing the overall percentage of college completers within the state.**”⁹ [Emphasis added]*

It has also been noted that CTE dual enrollment courses allow students to try out different career paths, and that “a hands-on CTE course may provide [struggling] students with a better chance of being successful than a college-level academic course.” The paper cites students in one program with poor grades in high school courses posting higher grades in their dual-enrollment renewable energy course.¹⁰

And in purely practical terms, supporters of CTE dual enrollment raise the fact that dual enrollment allows high schools to expand CTE offerings without the need to purchase expensive equipment.

The authors of one widely-cited study point out “Many schools, particularly those in small or cash-strapped districts, cannot afford the equipment necessary to prepare students for technical fields but community colleges often invest in such equipment. By enabling high school students to take courses on a college campus where such resources are available, high school CTE programs can expand options for students without additional drain on their resources.”¹¹

1. Responsibility for course fees should not fall to students or parents

Data from the 2013 analysis by the National Center for Education Statistics indicate that course fees could pose barriers to student participation in CTE dual enrollment coursework – 34 percent of high schools with students enrolled in CTE dual enrollment courses reported that students were primarily responsible for paying course fees.¹² While course fees may be nominal in an academically-oriented dual enrollment course, fees for postsecondary CTE courses may be quite substantial.

As an example, in **Illinois**, welding is among the top 10 most popular dual enrollment courses. However, course materials can be quite costly for welding courses. At Illinois Valley Community College, for instance, books and supplies for a four-semester [Welding Production Certificate](#) come to \$1,911.

Some states such as **Florida** make clear that any dual enrollment student enrolled at a public postsecondary institution is exempt from paying course fees.¹³

2. Course content and instructor credentials must mirror those of traditional postsecondary instructors

The 2013 NCES data suggest that states should set measures in place to ensure course rigor – 67 percent of high schools with students enrolled in CTE dual enrollment courses reported that only high school instructors taught these courses.¹⁴ Without measures to verify course quality, neither students, the postsecondary institutions they may transfer into nor their future employers can be sure that the course content of the dual enrollment course is equivalent to the content students would have received through a traditional postsecondary course.

Fortunately, multiple avenues are available to states to assure course quality. The National Alliance of Concurrent Enrollment Partnerships (NACEP), which accredits applicant concurrent enrollment programs that meet NACEP's 17 rigorous [standards](#), includes among its accredited members programs that offer general education and CTE courses, and programs that offer only CTE coursework.¹⁵ Some states have incorporated NACEP standards into regulations governing both academic and CTE dual enrollment programs. Other states such as **Illinois** have enacted program requirements similar to the NACEP standards.¹⁶

Texas requires CTE dual enrollment courses to be college-level technical education courses listed in the state's Workforce Education Course Manual.¹⁷

Research highlights

What the data show

CTE dual enrollment students are more likely than their peers who did not dually enroll to:

- Earn a high school diploma.¹⁸ One study indicates graduation rates among CTE dual enrollment students were higher than their non-dually-enrolled peers even after controlling for test scores.¹⁹
- Enroll in a bachelor's degree program.²⁰ One study found that CTE dual enrollment course completers in **Florida** were slightly more likely than *all* dually-enrolled students to enroll in a four-year institution - 7.7 percent for all dually-enrolled students versus 8.6 percent for CTE dually-enrolled students.²¹ The same study found CTE dual enrollment students in **New York City** were 9.7 percent more likely than their non-dually-enrolled peers in high school CTE programs to enroll in a baccalaureate degree program after high school graduation.²²
- Enroll in college full-time. Again, one study found CTE dual enrollment students slightly more likely than dual enrollment students generally to enroll in college full-time.²³ This is important given the body of research suggesting that enrolling in college full-time increases a student's chances of college completion.
- Not enter remedial coursework upon college entry.²⁴
- Have higher college persistence rates.²⁵

3. Courses should incorporate industry curriculum and standards, and lead to certification

On a related note, it is critical that CTE dual enrollment courses integrate industry curriculum and standards, and lead to industry certification. Courses that do not integrate these curricula and standards, or do not lead to certification, are of limited value and a poor investment of student, district and institutional time and resources. Fortunately, some states have taken steps to ensure courses are aligned to industry needs and lead to industry-recognized credentials.

Florida requires “career dual enrollment” to be provided as an option for students to earn industry certifications that count as credits toward the high school diploma. Further extending student opportunities, “career early admission” is a type of career dual enrollment that allows students to enroll full-time at a career center or Florida College System campus in programs leading to industry certifications creditable both to the high school diploma and certificate or associate’s degree. As with other dual enrollment options in the state, career early admission students are exempt from paying registration, tuition and laboratory fees.²⁶

By the numbers

Growth in CTE dual enrollment

In 2013, the National Center on Education Statistics published survey [data](#) on dual enrollment course-taking in the 2010-11 school year. The data reveal that:

- 82 percent of high schools had students enrolled in dual enrollment coursework.
- Nearly half – or 49 percent – of these high schools had students participating in CTE dual enrollment.
- This translates into roughly 601,500 students enrolled in CTE dual enrollment courses in 2010-11.
- In comparison, CTE dual enrollment courses comprised 400,000 enrollments in 2002-03.
- The change in student enrollment between 2002-03 and 2010-11 represents a yearly growth rate of 5.3 percent.

4. States should ensure course transferability

If credits are not recognized for transfer when a high school graduate enters higher education, dual enrollment loses its potential to save students (and their parents) tuition costs, avoid duplication of services between institutions and reduce students’ time to degree.

Recent state activity suggests a shift towards dual enrollment and away from the former Tech Prep articulated credit model. Under the articulated credit model, a student earned high school credit for a postsecondary course but earned postsecondary credit only if the student enrolled after high school graduation in the two-year institution or career tech center that had partnered with the student’s high school, or if the course was a recognized course in the statewide articulation agreement. This trend away from articulated credit expands the transferability of CTE dual enrollment courses.

In an encouraging trend, policies in [22 states](#) require all public two- and four-year institutions to accept college credits earned through dual enrollment programs.

States should also consider means to allow CTE dual enrollment credits to be recognized as “academic” credit should a student’s interest change. **Louisiana** [legislation](#) enacted in 2013 directs the Statewide Articulation and Transfer Council to develop “academic transfer modules” to award and transfer credit for the academic content embedded in CTE and industry-based certification courses, including for courses offered through dual enrollment partnerships.²⁷

The author wishes to thank Adam Lowe, executive director, National Alliance of Concurrent Enrollment Partnerships; Kate Blossveren Kreamer, Associate Executive Director, National Association of State Directors of Career Technical Education Consort; and Scott Stump, Assistant Provost, Career and Technical Education, Colorado Community College System, for their guidance in developing this report.

Jennifer Dounay Zinth is a senior policy analyst and co-director of the Information Clearinghouse at the Education Commission of the States. Contact her at jdounay@ecs.org.

For more information

Additional ECS resources on this issue include:

[Increasing Student Success in Dual Enrollment Programs: 13 Model State-Level Policy Components](#)

ECS identified 13 model state-level policy components that may increase student participation and success in dual enrollment programs. These components fall under four broad categories: access, finance, ensuring course quality and transferability of credit. Examples of state laws containing these components are incorporated throughout this report. ([Jennifer Dounay Zinth](#), ECS, February 2014)

[Dual Enrollment Online Database](#)

ECS’ 50-state online database includes a state-by-state breakdown on 20 data points about dual enrollment, as well as comprehensive state profiles. ([Jennifer Dounay Zinth](#), ECS, December 2013)

About ECS

[The Education Commission of the States](#) was created by states, for states, in 1965. We track policy, translate research, provide unbiased advice and create opportunities for state policymakers to learn from one another.

The conclusions presented in this report are those of ECS, which receives the majority of its funding from the states and territories it serves. As part of the services ECS provides to states, staff members are available for consultation and to serve as third-party experts in legislative hearings.

Endnotes

¹ Thomas, N., Marken, S., Gray, L., and Lewis, L. (2013). [*Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2010–11*](#) (NCES 2013-001). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

² Melinda Mechur Karp, Juan Carlos Calcagno, Katherine L. Hughes, Dong Wook Jeong, Thomas R. Bailey, Community College Research Center, Teachers College, Columbia University, [*The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States*](#), October 2007; Katherine L. Hughes, Olga Rodriguez, Linsey Edwards and Clive Belfield, Community College Research Center, Teachers College, Columbia University, [*Broadening the Benefits of Dual Enrollment: Reaching Underachieving and Underrepresented Students with Career-Focused Programs*](#), July 2012.

³ Hughes et al., p. 21

⁴ Hughes et al., p. 22

⁵ Karp et al., pp. 5, 28

⁶ Karp et al., pp. 29-30

⁷ Karp et al., p. 55

⁸ Karp et al., p. 58, 61, 63

⁹ Melinda Mechur Karp, Community College Research Center, Teachers College, Columbia University, [*Dual Enrollment for College Completion: Policy Recommendations for Tennessee*](#), February 2013.

¹⁰ Linsey Edwards, Katherine L. Hughes, and Alan Weisberg, Community College Research Center, Teachers College, Columbia University, [*Different Approaches to Dual Enrollment: Understanding Program Features and Their Implications*](#), October 2011.

¹¹ Karp et al., p. 12

¹² Marken et al., p. 4

¹³ West's F.S.A. § 1011.62(1)(i)

¹⁴ Marken et al., p. 4

¹⁵ Phone conversation with Adam Lowe, Jan. 29, 2014

¹⁶ 110 ILCS 27/20; 23 Ill. Adm. Code 1501.507(b)(11)

¹⁷ Texas Education Agency, [*Dual Credit Frequently Asked Questions*](#), Aug. 12, 2011.

¹⁸ Melinda Mechur Karp, Juan Carlos Calcagno, Katherine L. Hughes, Dong Wook Jeong, Thomas R. Bailey, Community College Research Center, Teachers College, Columbia University, [*The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States*](#), October 2007; Katherine L. Hughes, Olga Rodriguez, Linsey Edwards and Clive Belfield, Community College Research Center, Teachers College, Columbia University, [*Broadening the Benefits of Dual Enrollment: Reaching Underachieving and Underrepresented Students with Career-Focused Programs*](#), July 2012

¹⁹ Hughes et al., p. 21

²⁰ Hughes et al., p. 22

²¹ Karp et al., pp. 5, 28

²² Karp et al., p. 45

²³ Karp et al., pp. 29-30

²⁴ Hughes et al., p. 24

²⁵ Hughes et al., p. 24; Karp et al., pp. 5, 30, 32

²⁶ West's F.S.A. § [1007.271\(7\), \(11\)](#)

²⁷ LA. REV. STAT. ANN. § [17:3162\(D\)](#), [3165.1](#)

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