

## Results in Brief:

# National Assessment of Career and Technical Education: Interim Report

May 2013

The fourth reauthorization of the *Carl D. Perkins Career and Technical Education Act (Perkins IV)* in 2006 was intended to improve the quality of career and technical education (CTE) at the secondary/postsecondary levels by integrating academics with career and technical content. Specifically, *Perkins IV* introduced a requirement that all local grantees offer one or more programs of study (POS): career pathways that help students make the transition from secondary to postsecondary education while pursuing an industry-recognized credential, certificate, or degree. The legislation also introduced new accountability requirements. States must incorporate secondary accountability indicators from the *Elementary and Secondary Education Act* for the CTE students they serve, report separately on a set of Tech Prep indicators, and require local grantees to submit data and negotiate on levels of performance. Federal funding policy also changed to permit states to consolidate all or a portion of their Tech Prep allocation into the state's basic grant.

## STUDY QUESTIONS

*Perkins IV* required the U.S. Department of Education to undertake a National Assessment of Career and Technical Education (NACTE) to assess the current status of state and local CTE programs. The NACTE is designed to address the following questions:

1. How have secondary and postsecondary student enrollments in CTE programs changed?
2. Do students who participate in CTE realize any educational or workforce benefits?
3. How are *Perkins IV* funds distributed and used?
4. To what extent are *Perkins IV* accountability data valid, reliable, and comparable, and to what extent are decision makers using these data?
5. Are grantees meeting the requirement to develop and implement programs of study that integrate academic and technical content?

## STUDY PURPOSE AND DESIGN

The NACTE is comprised of a set of six studies of student participation in CTE, as well as studies of CTE student outcomes and state and local implementation of key provisions in the *Perkins IV* legislation. NACTE findings are based on descriptive statistics as well as econometric estimation of program effects using national, state, and local administrative data. The assessment also examines survey and case study data from program directors on the implementation of *Perkins IV*.

## Highlights

This interim report presents preliminary findings regarding CTE enrollment patterns, student outcomes, and international comparisons of CTE participation. Key findings from the interim report include:

- The percentage of students completing a sequence of CTE courses at the high school level declined between 1982 and 2004.
- High school graduates in the U.S. less frequently completed a CTE concentration than their counterparts in Europe and Asia.
- An analysis of national longitudinal data of high school students found that taking a concentrated sequence of CTE courses neither increased nor decreased math achievement or high school completion.
- Data from a natural experiment in one city found that students who chose to apply and were admitted to a CTE school by lottery were more likely to graduate on time and complete a sequence of college preparatory math courses than those who applied but were not admitted. However, the study did not find an effect on math or reading improvement.

The final report will provide a more comprehensive summary of findings from the six NACTE studies in order to address the full set of research questions.

## COURSETAKING

**The percentage of students completing a sequence of CTE courses at the high school level declined between 1982 and 2004.**

- CTE occupational concentration is when a student earns at least three CTE credits in a *single* occupational area (CTE concentrators) – and based on that definition there was a decline in CTE participation from 30 percent of all high school graduates in 1982 to 17 percent in 2004.
- The proportion of high school graduates who completed at least three CTE credits in *more than one* occupational area (CTE explorers) increased from 16 percent in 1982 to 21 percent in 2004.
- Added together, the share of high school graduates who earned at least three CTE credits in *one or more* occupational area declined from 46 percent of all high school graduates in 1982 to 38 percent in 2004.

**High school graduates in the U.S. less frequently completed a CTE concentration than their counterparts in Europe and Asia.**

- The share of high school graduates in the U.S. whose curriculum consisted of 25 percent or more CTE courses (the OECD definition of a CTE concentration) dropped from 18 percent in 1982 to 6 percent in 2004.
- In 8 out of 11 European countries that were examined in the analysis, approximately half of their secondary graduates concentrated in CTE. In the two Asian countries included in the analysis, Japan and Korea, about a quarter of their graduates concentrated in CTE.

## STUDENT OUTCOMES

**An analysis of national longitudinal data of high school students found that taking a concentrated sequence of CTE courses neither increased nor decreased math achievement or high school completion.**

- A study using national longitudinal data of 10<sup>th</sup>-graders from 2002 (ELS:2002) did not find any association between concentrating in CTE course work and math achievement growth between 10<sup>th</sup>- and 12<sup>th</sup>-grade through a standardized assessment.
- The study also found no association between CTE concentration and graduating from high school.

**Data from a natural experiment in one city found that students who chose to apply and were admitted to a CTE school by lottery were more likely to graduate on time and complete a sequence of college preparatory math courses than those who applied but were not admitted. However, the study did not find an effect on math or reading improvement.**

- A study of a natural experiment of CTE school choice in Philadelphia found some positive effects from CTE schools. It found positive effects on the probability of successfully completing the college preparatory math sequence of algebra 1, algebra 2, and geometry and of graduating on time.
- The study did not find any effect of attending a CTE school on math or reading achievement growth between 8<sup>th</sup> and 11<sup>th</sup> grades.

## STUDIES INCLUDED IN THE NACTE

Six NACTE studies serve as primary source materials for the NACTE interim and final reports:

1. A study of state and local implementation of key provisions of the *Perkins IV* legislation.
2. A national study of the association between CTE course taking and math achievement and high school completion.
3. A state study (Florida) of the association between CTE course taking and high school, postsecondary, and labor market outcomes.
4. A district study (Philadelphia) of CTE school choice with student lottery assignment estimating the effects of CTE school attendance on high school outcomes.
5. A district study (San Diego) of the association between CTE course taking and high school and postsecondary outcomes.
6. An analysis of test scores of prospective CTE teachers using national data.

These reports will be released separately with updates and links provided on the interim report's webpage.

## ADDITIONAL INFORMATION

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