

# Strategies for Identifying Programs of Study Students in New Jersey

Technical Assistance to States Project



*Prepared under contract to*  
U.S. Department of Education

**RTI International**  
2150 Shattuck Avenue, Suite 800  
Berkeley, CA 94704

*Contact*  
**Steven Klein**  
sklein@rti.org  
503-428-5671  
**March 2015**



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## Background

The *Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)* requires that all eligible recipients within a state offer at least one program of study (POS) to qualify for a federal grant. While the legislation describes the key components of a career and technical education (CTE) POS, states may establish their own criteria for approving programs. At this time, the U.S. Department of Education, Office of Career, Technical, and Adult Education (OCTAE) does not hold states accountable for reporting on their POS performance. As a consequence, little is known—nationally, statewide, or within individual grant recipients—about the characteristics or quality of POS offered, number of POS approved, number of students participating or concentrating in programs, or the outcomes students achieve.

A secondary CTE program in New Jersey qualifies as a POS only if students enrolling in the program have the option of earning college credit while still in high school. This means that each secondary *Perkins IV* grant recipient must partner with at least one two-year and/or four-year postsecondary institution to develop a CTE articulation agreement that is recognized by the state. A student enrolled in such a program is considered a POS student only if he or she earns one or more college credits that can be transcribed at the time of course completion. Credit award is contingent upon performance: student must achieve a minimum course standard to qualify for a credit, with the type and threshold for credit award negotiated between the secondary and postsecondary institution.

New Jersey's standards for identifying CTE POS and student completers are more restrictive than those of other states. States generally do not set expectations that a CTE program offer college credit as a prerequisite for POS approval, nor do they require that students earn a college credit, printed on a college transcript at the time of award, to achieve CTE POS status. While these differences do not currently present issues, since states do not report information on POS programs or students, they may become problematic if the reauthorization of *Perkins IV* introduces new requirements for state reporting on the number of students participating in CTE POS and/or the outcomes they achieve.

This paper assesses the potential ramifications of New Jersey's approach for identifying CTE POS and students and the steps the state may take to minimize reporting differences with other states. This includes consideration of how state policies for CTE POS program approval might be modified in anticipation of *Perkins IV* reauthorization, as well as how administrative data maintained within NJSMART, the Statewide Longitudinal Data Systems (SLDS), might be recoded or augmented to provide increased flexibility in performance reporting.

## Identification of CTE students

States currently report performance data for secondary students participating in CTE coursework within all *Perkins IV* grant recipients. To support states in identifying CTE student populations, in 2007 OCTAE issued nonregulatory guidance that defined the following two groups of students:

- **Participant:** A secondary student who has earned one (1) or more credits in any CTE program area.
- **Concentrator:** A secondary student who has earned three (3) or more credits in a single CTE program area (e.g., health care or business services), or two (2) credits in a single CTE program area, but only in those program areas where 2 credit sequences at the secondary level are recognized by the state and/or its local eligible recipients.<sup>1</sup>

While states were not required to use these definitions, most use the one-credit threshold to identify CTE participants. States have, however, established differing criteria for conferring CTE concentrator status, with the majority requiring that students earn two or more CTE credits in a single occupational area (30 states) (Exhibit 1). The remainder use a range of approaches, which include the expectation that concentrators complete 50 percent of a CTE program sequence (9 states), differing credit thresholds depending upon the program area (7 states), or some other approach.

The use of differing criteria and credit thresholds for identifying CTE concentrator populations can invalidate cross-state comparisons of student performance. *Perkins IV* stipulates that states report student performance outcomes for a core set of indicators at the secondary and postsecondary levels. To ensure that measurement populations have achieved a basic level of proficiency in CTE, OCTAE requires that states report on their population of CTE concentrators.<sup>2</sup> If the characteristics of students differ across states (for example, because some students have completed a greater number of CTE credits), then it is misleading to compare state performance outcomes across indicators.

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<sup>1</sup> Justesen, Troy R. *Student Definitions and Measurement Approaches for the Core Indicators of Performance under the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)*. (Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education, 2007). <http://cte.ed.gov/docs/nonregulatory/studentdef.pdf>.

<sup>2</sup> The population of CTE concentrators may vary across indicators. For some metrics, such as student technical skill attainment, states may report on the entire population of CTE concentrators; in other cases, such as for high school graduation, states may report on a subset of students.

**Exhibit 1. Number of states using various definitions for CTE concentrators at the secondary level:  
2009–10**

Definition	Number of states
4 or more credits	3
3 or more credits	15
2 or more credits	12
1.5 or more credits	2
1 or more credits	1
2+ or 3+ depending on program	4
1+ or 2+ depending on program	3
Completed 50 percent of the program	9
Other (e.g., completed advanced-level work)	2

Source: U.S. Department of Education, Office of Vocational and Adult Education (2013), *Carl D. Perkins Career and Technical Education Act of 2006*, Report to Congress on State Performance: Program Year 2009–10.

To illustrate the challenges that can arise in making cross-state comparisons, Exhibit 2 provides information on how New Jersey student populations and definitions compare to West Virginia, which has similar numbers of CTE concentrators, as well as those of several neighboring states (Maryland, New York, and Pennsylvania).

Although differences in the relative size of New Jersey and West Virginia are significant, the two states reported relatively similar numbers of CTE concentrators in the 2012–13 program year (42,146 and 42,269, respectively).<sup>3</sup> This similarity is difficult to explain, particularly given how the two states define a CTE concentrator. West Virginia requires that students successfully complete four required courses in a CTE program, as compared to only two courses in New Jersey. Logically, this would suggest that West Virginia might have fewer students. Since both states offer CTE instruction in both comprehensive high schools and area centers, with New Jersey maintaining 21 county vocational facilities and West Virginia 25 county and 7 multicounty centers, student access to services is likely not the issue.

<sup>3</sup> Although roughly one-third the size of West Virginia in terms of land area (8,722 square miles for New Jersey vs. 24,230 square miles for West Virginia), New Jersey had nearly five times the population of West Virginia as of July 1, 2014 (8,938,175 vs. 1,850,326).

[http://en.wikipedia.org/wiki/List\\_of\\_U.S.\\_states\\_and\\_territories\\_by\\_area](http://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_area) and

[http://en.wikipedia.org/wiki/List\\_of\\_U.S.\\_states\\_and\\_territories\\_by\\_population](http://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_population)

**Exhibit 2. Selected state CTE enrollment and concentrator definitions: 2012–13**

State	Total CTE enrollment	Number of secondary concentrators (% of total enrolled)	Secondary CTE concentrator definition		
New Jersey	212,308	42,146 (20%)	A secondary student who has completed at least two courses in a single state-approved CTE program area (e.g., health care or business services) at the secondary level where a program sequence represents three (3) or more courses and one (1) course in a single state-approved CTE program area, but only in those program areas where there is a two (2) course sequence at the secondary level.		
West Virginia	65,297	42,269 (65%)	Concentrators will be those secondary students who successfully complete the four required courses in an occupational career and technical education concentration as approved by the Division of Technical and Adult Education.		
Maryland	179,678	24,448 (14%)	A high school student enrolling in a course at the concentrator course level for a CTE completer program (post 50 percent of the program sequence).		
New York	196,761	83,784 (43%)	<table border="0"> <tr> <td>Secondary local high school CTE concentrator: a student who has completed at least two sequenced CTE courses (equivalent to two full school-year courses) out of a three-course cohesive concentration.</td> <td>Secondary BOCES or technical high school concentrator: a student who has successfully completed two-thirds of his or her program.</td> </tr> </table>	Secondary local high school CTE concentrator: a student who has completed at least two sequenced CTE courses (equivalent to two full school-year courses) out of a three-course cohesive concentration.	Secondary BOCES or technical high school concentrator: a student who has successfully completed two-thirds of his or her program.
Secondary local high school CTE concentrator: a student who has completed at least two sequenced CTE courses (equivalent to two full school-year courses) out of a three-course cohesive concentration.	Secondary BOCES or technical high school concentrator: a student who has successfully completed two-thirds of his or her program.				
Pennsylvania	154,874	32,186 (21%)	A secondary student, who, by the end of the reporting school year, was reported as having earned at least 50 percent of the minimum technical instructional hours required for Pennsylvania Department of Education program approval.		

Source: Perkins Information Management System, accessed January 21, 2015.

Maryland and Pennsylvania also employ differing concentrator definitions, although thresholds are based on student completion of a percentage of courses (or hours of instruction), rather than the number of CTE courses within a given program sequence. Conversely, New York has identified a CTE concentrator definition that appears to be similar to that of New Jersey, at least for students who are enrolled in comprehensive high schools, though the state appears to have set a higher threshold for students enrolling in area technical schools or Boards of Cooperative Educational Services (BOCES). New York reports, however, roughly twice the number of CTE concentrators than New Jersey.

Clearly a range of factors, in addition to how a state defines a CTE concentrator, affects the number of students included in state accountability reports. These likely include the levels of state financing for CTE programming, students' capacities and interest in taking elective coursework, and the number and type of programs offered. The differing approaches that states may take to constructing measures for each performance indicator might be expected to further undermine comparability.

While the development of non-regulatory guidance has helped direct states towards greater consistency in identifying CTE students, there is still considerable variation among states in how CTE concentrator populations are defined. For this reason, at the current time, it is virtually impossible to compare the number, much less the performance outcomes, of CTE concentrators in New Jersey to those of other states. This variation is compounded when population definitions are expanded to address population subsets, such as students participating in CTE POS.



## Programs of Study Identification

*Perkins IV* stipulates that a CTE POS (1) incorporate secondary and postsecondary education elements, (2) include rigorous content aligned with challenging academic standards and relevant technical content offered within nonduplicative progression of courses that span secondary and postsecondary education, (3) *may offer* (italics added) the opportunity for high school students to participate in dual or concurrent enrollment programs to obtain postsecondary credits, and (4) must lead to an industry-recognized credential or certificate at the postsecondary level or an associate's or bachelor's degree [Sec. 122(c)(1)(A)].

To support states in improving the quality of their CTE POS, in 2010 OCTAE released a POS Design Framework (Framework)<sup>4</sup> that elaborated ten components of effective CTE programs. These components are interdependent and not meant to be ranked in order of importance: individual components may be of higher or lower priority to a local provider, depending on their own program status and need. While the Framework has proved to be a useful tool for establishing the operational principles of a functional POS, states did not have access to the Framework at the time they were approving local providers for *Perkins IV* participation.

In the absence of national guidance, states used a variety of approaches to approve local programs as POS. In an effort to categorize state criteria, researchers performing the National Assessment of Career Technical Education (NACTE) conducted a nationwide survey of state CTE directors in 2009. Directors were asked to describe the initial process used to approve local programs and the components that they included. State approaches generally fell into one of three categories. Of the 41 states responding at the secondary level, 29 states employed a centralized approach that entailed creating a model POS that applied across all CTE program areas, with local agencies required to adopt state definitions and course sequencing or apply for a waiver in developing their own programs. The remaining 28 states used a decentralized approach, leaving POS development largely to local discretion, although five states left some or all POS development to local control, with no state guidance provided.<sup>5</sup>

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<sup>4</sup> The Framework and related resources are available on the Perkins Collaborative Resource Network, which may be accessed at <http://cte.ed.gov/nationalinitiatives/rposdesignframework.cfm>.

<sup>5</sup> U.S. Department of Education. *National Assessment of Career and Technical Education: Final Report to Congress*. (Washington, DC: U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, 2014.)

Given the variation in state approaches to POS approval, it is not apparent how the approach used for POS approval in New Jersey will affect nationwide comparisons. Like many states, New Jersey has established differing criteria for determining the components of a CTE POS, which includes allowing for locally developed programs that meet state approval criteria. While the Department's Framework has helped identify the components of successful programs, if and how states are using the Framework to drive POS refinement is presently unknown, as is the quality of local programs.

## State Approaches to Awarding Dual Credit

*Perkins IV* stipulates that states *may offer* dual credit as part of a POS. Although the potential award of postsecondary credit is one of the unique features of a POS, states are not required to report on the number of students earning college credit within an academic year. There are, consequently, no national (or state level) data on the relative number of programs for which dual credit is available or the number of high school students who earned such credit. This means that it is impossible to assess whether New Jersey's emphasis on the potential for award of dual credit as part of a CTE POS positions the state to be relatively more or less successful than others.

To assess the extent of a dual enrollment award, the NACTE survey of secondary and postsecondary local program directors included a question about the prevalence of dual or concurrent credits at the secondary level (Exhibit 3). Survey responses indicate that roughly three-fifths (58 percent) of Local Education Agency (LEA) directors reported that at least one of their highest-enrollment POS offered students opportunities for dual or concurrent enrollment (Klein et. al., 2014).<sup>6</sup> Reports were somewhat higher at the postsecondary level than secondary level, with more than three-quarters (76 percent) of program directors reporting that one or more of their five largest CTE POS offered postsecondary credit to secondary students.

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<sup>6</sup> Klein, S., Sheil, A.R., White, R., Staklis, S., Alfeld, C., Dailey, C.R., et al. (Oct 2014). Evaluation of the implementation of the Carl D. Perkins Career and Technical Education Act of 2006: Finance, accountability, and programs of study. Research Triangle Park, NC: RTI International.

**Exhibit 3. Percentage of LEAs according to inclusion of various curriculum characteristics in top five POS: 2009–10**

Curriculum characteristic	At least one of top five POS		
	None	POS	Don't know
<u>Secondary LEA Directors:</u> Offers secondary CTE courses for postsecondary credit (dual or concurrent at secondary and postsecondary levels)	23	58	19
<u>Postsecondary Institutional Directors:</u> Offers postsecondary credit to secondary students through dual or concurrent credit	12	76	12

Source: Klein, S., Sheil, A.R., White, R., Staklis, S., Alfeld, C., Dailey, C.R., et al. (Oct 2014)

While results from NACTE are dated and provide limited insight into overall program offerings (i.e., directors limited their response to their top five programs), it is apparent that many states did not require local sites to negotiate an articulation agreement that awarded postsecondary credit for each POS offered. If the requirement of the potential for postsecondary credit award is unique to New Jersey, then the state may face a situation in which it offers a relatively smaller number of CTE POS than other states. This may act to reduce the number of students who may qualify as a CTE POS participant, concentrator, and completer.

## Implications for POS Student Identification

Given the intended purposes of preparing students to transition from secondary to postsecondary education, New Jersey's policies around the award of dual credit within a POS are commendable. The state is committed to ensuring that students have access to programs that afford them the ability to continue their education at a postsecondary institution, and it does so in part by requiring that secondary CTE teachers and postsecondary CTE faculty work together to identify qualifying coursework and expectations of credit award. This is in keeping with expectations of a POS as both defined in statute and recognized in OCTAE's POS Framework.

A student participating within a CTE POS in New Jersey must complete the credit-bearing coursework at an agreed-upon performance standard to be accorded CTE POS status. This excludes students who may successfully pass a course but fail to qualify for the credit because they do not meet the minimum performance threshold. A POS credit awarded to a student must also appear on a college transcript for the student to be counted. This additional criterion excludes students who earn a postsecondary credit AND passing score but who are only eligible for the credit upon matriculating at the awarding college.

While the absence of national data on POS precludes state-to-state comparisons, the qualifications that New Jersey places on CTE POS will likely mean that the state will have fewer programs than other states with similar numbers of providers. Moreover, the preconditions that the state places on student eligibility will likely mean that the state will report fewer numbers of students than states with similar numbers of programs. The simple solution to this would be for the state to relax its administrative policies governing POS program approval and for student performance within a program to qualify for POS concentrator status.

Although New Jersey may report relatively fewer CTE POS students, it is likely that the performance of these students will be higher than that of other states. This is because the multiple and high expectations that the state uses to assign CTE POS status to students virtually guarantees that those who earn the distinction will be successful on most measures of program performance. In essence, the state has reduced the number of students who will appear in the denominator of each measure and has set conditions that will likely assure a large number of these individuals will appear in the numerator. This approach can make the state appear to be performing at higher levels than other states, in part because the student populations that are being compared may differ in terms of ability or the types of programs in which they are enrolled.

# Using Longitudinal Data Systems to Assess CTE POS

The New Jersey Department of Education collects information on students participating in CTE programs within the state. These student data are incorporated into the NJSMART Education Data System, where they are matched with other state data to obtain a comprehensive picture of students participating in CTE programs. To ensure that data elements are consistent, uniform, and clear, the state publishes and makes periodic annual updates to a CTE Submission Student Data Handbook (Handbook), which provides standards for educational data submitted by school districts to the state. The most recent version of the handbook was published in February 2015.

Data elements specified in the CTE Handbook can be used to identify the progress a CTE student makes within an approved CTE program, as well as whether the student has achieved POS status. While the Handbook identifies 18 discrete elements, just three are relevant to the identification of CTE POS students. The following section reviews the data elements that are included within the Handbook submission, identifies issues for consideration, and offers options for updating each element to provide the state with additional flexibility in reporting.

Key: Proposed language for insertion  
~~Proposed language for deletion~~

## ***CTE Program Status (NJDOE Number 94)***

**Definition:** An indicator of the progress made by a CTE student enrolled in an approved CTE program

**Acceptable Values:**

PART = Participant—A student who has completed at least one course in any state-approved CTE program with a sequence of three or more courses.

CONC = Concentrator—A student who completed two or more courses among a sequence with three or more courses, or a student at a county vocational school who completed one course in a sequence of two courses, within a state-approved CTE program.

COMP = Completer—A student who completed a whole sequence of courses of a state-approved CTE program.

### Issues for Consideration

1. *Consistency*—The data element does not use consistent language to identify CTE participants, concentrators, and completers. Specifically, the definition of CTE concentrator does not include language stipulating that the CTE sequence be part of a “state-approved CTE program.”
2. *Terminology*—The expression “a whole sequence of courses” in the completer definition does not parallel language used in the section.
3. *POS designation*—The current definition does not include POS in addition to a CTE program.

### Option 1 for Element Update

The fields contained within this data element will enable the state to identify students participating in a CTE program or CTE POS, subject to the definition of a CTE student adopted by the state for *Perkins IV* purposes. The state may wish to consider modifying the acceptable value descriptions to provide consistent, parallel terminology as follows.

**Definition:** An indicator of the progress made by a CTE student enrolled in an approved CTE program or CTE Program of Study.

PART = Participant—A student who has completed at least one course in any state-approved CTE program or CTE Program of Study with a sequence of three or more courses.

CONC = Concentrator—A student who has completed two or more courses ~~among a~~ in any state-approved CTE program or CTE Program of Study with a sequence with of three or more courses, or a student at a county vocational school who completed one course in a sequence of two courses, within a state-approved CTE program or CTE Program of Study.

COMP = Completer—A student who has completed all of the courses in any state-approved CTE program or CTE Program of Study with a sequence of three or more courses, or a student at a county vocational school who has complete both of the courses in a sequence of two courses, within a whole sequence of courses of a state-approved CTE program or CTE Program of Study.

*Note:* Since students may participate in multiple CTE programs and CTE POS, the state may wish to modify its Supplemental Guidance to place priority for noting student progress on students participating in CTE POS, if the state wishes to place emphasis on students participating in these programs. Specifically, it may wish to modify Question 4 to note that students who participate in both CTE programs and CTE POS should apply the progress code associated with the CTE POS, rather than the program in which the students spend the most time enrolled.

### Option 2 for Element Update

In lieu of combining CTE programs and CTE programs of study in the **CTE Program Status** element, the state could choose to incorporate separate progress measures for students participating in CTE POS. If the state were to choose this option it would not need to make the indicated changes to **CTE Program Status**, other than noting that students enrolling in a CTE POS would be excluded from the element. Instead, it could substitute this element for the Program of Study element (NJDOE Number 99). Since the number of credits would be captured

### **CTE Program of Study Status (NJDOE Number 99)**

**Definition:** An indicator of the progress made by a CTE student enrolled in an approved CTE Program of Study.

PART = Participant—A student who has completed at least one course in any state-approved CTE Program of Study with a sequence of three or more courses.

CONC = Concentrator—A student who has completed two or more courses in any state-approved CTE Program of Study with a sequence of three or more courses, or a student at a county vocational school who completed one course in a sequence of two courses, within a state-approved CTE Program of Study.

COMP = Completer—A student who has completed all of the courses in any state-approved CTE Program of Study with a sequence of three or more courses, or a student at a county vocational school who has completed both of the courses in a sequence of two courses, within a state-approved CTE Program of Study.

### **Program of Study College Credits (NJDOE Number 100)**

**Definition:** The number of cumulative college credits a CTE student in a Program of Study receives for the academic year as part of the CTE-recognized articulation agreement.

**Acceptable Values:**

Minimum length: 2

Maximum length: 2

Values must be a whole number from 01 to 99

### Issues for Consideration

1. *Minimum value*—As currently operationalized, the field is mandatory if the **Program of Study** element is coded “Y,” or else the field is left blank.

### Options for Element Updates

If the state wishes to report on the cumulative college credits a CTE student in a POS receives for the academic year, the state could recode this element to allow for districts to enter a value range between 00 and 99. This will still enable the state, in combination with other elements, to identify whether a student who was in a CTE POS earned a college credit.

**Definition:** The number of cumulative college credits a CTE student in a Program of Study receives for the academic year as part of the CTE-recognized articulation agreement

**Acceptable Values:**

Minimum length: 2

Maximum length: 2

Values must be a whole number from ~~01~~00 to 99

*Note:* This element will still be restricted to students who have completed college credit-bearing courses as part of a CTE-recognized articulation agreement and will produce an error if a value is submitted and **Program of Study** has a value of other than “Y.”

### Other Considerations

The changes suggested above will allow New Jersey to use its existing NJSMART elements to identify students who have achieved participant, concentrator, or completer status in either a CTE program or CTE POS. The state also will be able to assess the number of college credits earned by students participating in a CTE POS; however, the current approach will not allow the state to identify students who earned credits that are not capable of being printed on a college transcript. While this will potentially lower the number of students who might otherwise be reported in other states, this approach is in keeping with New Jersey’s goal of ensuring that students who participate in a CTE POS receive a measureable benefit from their experience.