

RECOMMENDATIONS TO IMPROVE THE QUALITY OF PERKINS IV DATA IN VIRGINIA

Submitted by:

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BACKGROUND

In October 2007, the Office of Vocational and Adult Education (OVAE), U.S. Department of Education, invited state directors of career and technical education (CTE) to submit requests for individualized technical assistance to improve the quality of their Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV) accountability systems. In response, the Virginia Community College System (VCCS) submitted a request for support in establishing population definitions and measure constructions to guide development of its Perkins IV postsecondary accountability system.

Following consultation with Elizabeth Creamer, Director of Postsecondary Perkins/Tech Prep, and Wendy Kang, Director of Workforce Development Services Research, it was determined that the state would benefit from a review of the measures and data collection approaches planned for submission in the state's Perkins IV five-year transition plan.

Consultation services were provided to VCCS by Dr. Steven Klein, Director of Preparation for College and Careers, and Amanda Richards, Research Associate at MPR Associates, Inc. Discussions, which took place via telephone and e-mail contacts, focused on reviewing system reporting capabilities and state options for reporting on Perkins IV measures. This paper offers recommendations for structuring population definitions and measures, in light of federal non-regulatory guidance, to enhance the quality of Perkins IV accountability data in Virginia.

POPULATION DEFINITIONS

In March 2007, OVAE released nonregulatory guidance to assist states in defining their CTE participant and concentrator populations. A subsequent memo, issued at OVAE's June 2007 Data Quality Institute in Savannah, Georgia, detailed strategies for translating student attainment of state-approved CTE standards and completion of program coursework into "Perkins Credits" for use in identifying CTE populations.¹

Federal nonregulatory guidance calls for defining postsecondary CTE participants as individuals who earn one or more credits in any CTE program area, and concentrators as those who complete at least 12 academic or CTE credits within a single program area sequence—comprised of 12 or more academic and technical credits—that terminates in the award of an industry-recognized credential, certificate, or degree. States converting from standards would base their concentrator identification on student completion of a minimum of 50 percent of state-approved program standards. Students participating in a short-term CTE program sequence (i.e., less than 12 credits) would achieve concentrator status upon completion of their program area sequence.

States may focus measurement on concentrators in an exiting group of students or on those in an entry cohort. To define an exit group, states would identify students meeting the concentrator threshold who left postsecondary education in the reporting year, irrespective of when they achieved concentrator status or how long they were enrolled in college.

Alternatively, states may base measurement on an entry cohort of students; that is, individuals who achieve the concentrator threshold during a specified academic year. Once classified into an entry cohort, students remain with that cohort over time and are assessed for programmatic outcomes at the terminus of the analysis period. For example, using a 3-year entry cohort, outcomes for a concentrator who achieved concentrator status in the 2004–05 academic year would be reported on the December 2007 Consolidated Annual Report (CAR).

Recommendation 1: Consider state policy needs in establishing an exit group or entry cohort.

Federal nonregulatory guidance permits Virginia to base measurement on either an exiting group or an entry cohort of concentrators. Since there are tradeoffs associated with either approach, Virginia administrators must weigh the advantages and drawbacks of each when selecting a state reporting methodology.

With some exception, most states are planning to base their Perkins measures on an exiting group of students, in the belief that an exit cohort will allow them to assess whether leavers are taking with them a credential, certificate, or degree. In addition, exiting group data provides more timely information, since students exiting in a given program year can be included in the following year's CAR report. This can support state administrators and local program staff in structuring program improvement activities that reflect existing program conditions.

¹ The March 13, 2007 memo, *Student Definitions and Measurement Approaches for the Core Indicators of Performance Under Perkins IV*, may be accessed at: <http://www.ed.gov/policy/sectech/guid/cte/perkinsiv/studentdef.pdf>. The memo circulated at the Savannah conference may be downloaded at <http://www.edcountability.net/DQImaterials.cfm>.

Entry cohort data allow a state to assess outcomes for students who achieve concentrator status within a specified period of time. Using entry data, a state can assess institutional success in moving students through the system once they achieve concentrator status, which can provide useful information on system effectiveness. Here, drawbacks include the delay in obtaining cohort data and the need to track students across years to obtain an accurate assessment of cohort outcomes.

Since either approach is acceptable and may be deployed using existing state data, MPR recommends that Virginia administrators consult with state policymakers to determine which approach best aligns with state measurement goals.

Recommendation 2: Clarify state methods to establish an entry cohort.

Virginia is presently planning to define a concentrator as a student who enters a community college in a given year (summer, fall, spring) as a transfer or new student, and who earns at least 12 degree earning credits (of which 9 are in a CTE program area) within three years of entry. This approach would classify students as concentrators irrespective of when they achieved concentrator status and would discount prior coursework taken at another institution for students who transfer.

Conversations with analysts in other states using an entry cohort suggest that states are not setting a timeline for achieving concentrator status. Instead, all students who achieve concentrator status within a specified reporting period would be included within an entry cohort, with their outcomes assessed three-years following cohort entry. To bound analysis, some states are giving students five years to achieve concentrator status following entry; this decision is based on empirical study of student coursetaking, which shows that beyond five years, only a small number of additional students are likely to qualify for concentrator status.

Using this approach, outcomes for a student who achieved concentrator status in the 2004–05 program year would be assessed three years later (i.e., reported on the December 2007 CAR). Data would be aggregated across years, meaning that a student who completed in the 2004–05, 2005–06, or 2006–07 program year, would be compiled and reported as a single number.

Should the state adopt an entry cohort approach for tracking Perkins data? MPR recommends that Virginia administrators consider modifying its entry cohort definition as follows:

Postsecondary CTE Concentrator: A postsecondary student who, within the reporting year, completes at least 12 degree-earning credits—of which at least 9 credits must be technical—within a single program area sequence that is comprised of 12 or more academic and technical credits that terminates in the award of a certificate or degree.²

Federal nonregulatory guidance also suggests that states include in their concentrator definition information on students enrolling in credits or other activities to meet additional standards. In practice, this would mean that a student who completes 50 percent of the hours of instruction associated with a program sequence and who enrolls in a subsequent class should be classified as

² MPR further recommends that the state consider further modifying this definition, as described below.

a CTE concentrator. Recognizing that it is often not possible for states to generate fall course enrollment data in time for use on the CAR, which is submitted in December of the following academic year, OVAE has indicated that it is willing to drop this requirement if states adopt the 12 credit or 50 percent threshold level for CTE concentration.

Recommendation 3: Consider including students who complete a short-term program sequence of less than 12 academic and CTE credits.

Federal nonregulatory guidance calls for states to report outcomes for students who complete a short-term program sequence that terminates in the award of an industry-recognized credential, certificate, or degree. Based on consultations with other states, it appears that most are planning to include students who complete a short-term program in their measures. This will have several implications for state reporting.

Excluding short-term programs will diminish the number of CTE participants reported statewide, which could cause Virginia to appear to serve fewer students than in other states. And since short-term programs may be concentrated in certain clusters, such as in Science, Technology, Engineering, and Math, Virginia may appear to have less student involvement in some high demand, high wage fields. Moreover, because OVAE nonregulatory guidance defines concentrators as students who enroll in and complete a short-term program sequence, these students would, by definition, be included in both the numerator and denominator of some measures. This would potentially boost performance outcomes in states using this approach, making it appear that Virginia is less successful in achieving positive outcomes.

Ultimately, the decision to include or exclude individuals participating in short-term programs is a policy decision. Consequently, MPR recommends that state data analysts review state data on the number of students omitted from federal reporting, should short-term programs be excluded, and the effect on state outcomes. Should Virginia choose to include outcomes for these students, MPR recommends the state adopt the following definition:

Postsecondary CTE Concentrator: A postsecondary student who, within the reporting year, (1) completes at least 12 degree-earning credits—of which at least 9 credits must be technical—within a single program area sequence that is comprised of 12 or more academic and technical credits that terminates in the award of a certificate or degree, or who (2) completes a short-term CTE program sequence of less than 12 credit units that terminates in the award of an industry-recognized credential, certificate, or degree.

INDICATOR CONSTRUCTION AND DATA COLLECTION

The following section reviews Virginia’s approach for reporting Perkins IV data, as submitted to OVAE in its one-year transition plan, and offers recommendations to improve measure quality for five-year plan development.

1P1 Postsecondary Technical Skill Attainment

Under Perkins III, Virginia elected to report on the number of occupational-technical students enrolled in occupational-technical courses with Higher Education General Information Survey codes greater than 5000 and who earned a “C” or better in these courses. This approach, which serves as a proxy for technical skill attainment, would correspond to a bronze measurement approach defined by OVAE during its Next Step Working Group calls.

According to OVAE, states have three options for reporting technical skill attainment under Perkins IV.

Option 1: Third Party Assessments

Virginia could choose to report solely on the number of students tested with a state-developed, or an industry-recognized, third-party licensing, credentialing, or certification exam. With this approach, states would report on the percentage of students taking and passing such exams, along with the percentage of concentrators included in the measure. States would also be required to provide, in their Perkins five-year plan, a justification for the validity and reliability of this approach, along with an explanation of how they plan to expand the use of industry-recognized, third-party assessments to other program areas. Concentrators completing programs for which these types of assessments were not available or appropriate would be excluded from the measure until such assessments were identified.

Option 2: Third-Party and State-Approved, Locally-Developed Assessments

If states have in place, or are planning to put into place, a state-approval process for locally-developed assessments, then they may combine these assessment results with those obtained using Option 1. Under this approach, states would still be asked to supply justification for the validity and reliability of this approach, to report on the percentage of concentrators covered by state-developed or industry-recognized, third-party assessments, as well as to describe how they intended to expand the use of these assessments to other concentrators. But, because both measures are premised on the use of technical skill assessments, student outcomes from each approach can be combined and reported as a single measure for Perkins reporting purposes.

Option 3: Other Approaches

While OVAE is placing high priority on the use of assessments, Virginia also has the option to retain its existing Perkins III measurement definition or to adopt another measurement approach. In making this decision, state administrators should consider program capacity to report on student assessment results and the tradeoffs of adopting grade point average (GPA) over a locally

administered exam.

Among the possible measurement alternatives, Virginia could choose to assess the number of concentrators who:

- Earned a GPA of 2.0 or better on an end-of-course assessment (i.e., a “C”).
- Earned a GPA of 2.0 or better on an end-of-program assessment.
- Earned a cumulative GPA of 2.0 or better on all CTE courses included in a program sequence.
- Earned a cumulative GPA of 2.0 or better on all courses (academic and CTE) included in a program sequence.
- Completed a fully accredited CTE program sequence.

If the state is to use this approach, it must provide justification as to the validity and reliability of its measure. To assist the state in this regard, MPR recommends that the state review the memo developed by Chuck Wisely of the California Community College System and consult with its OVAE Regional Accountability Specialist for guidance on preferred state approaches.³ Note, however, that OVAE has strongly suggested that states seek to report using Option 1 or Option 2 described above, in the belief that third-party, state developed, or state-approved, locally-developed assessments provide a better measure of concentrators’ technical skill attainment.

2P1—Credential, Certificate, or Diploma

Virginia plans to report on the number of CTE concentrators receiving a degree, certificate, diploma, or industry-recognized certification within three years of achieving concentrator status. The base for this measure would be the total CTE concentrator population in the corresponding entry cohort. Excluded would be students who were retained in their originating institution or who transferred to another 2-year or 4-year college or university (in-state or out-of-state) in the reporting year. This approach would enable the state to assess the extent to which individuals are successful in obtaining a recognized institutional award within three years of achieving their concentrator status.

Recommendation—Consider refining measurement to focus on an entry or exiting group of students as called for in federal nonregulatory guidance.

While the measurement approach used to identify students is relatively straightforward, the state may wish to refine its measure construction as follows:

For an Entry Cohort:

Numerator: Number of CTE concentrators who, in the identified reporting year, received an industry-recognized credential, certificate, or degree within three years of achieving concentrator status.

Denominator: Number of CTE concentrators identified in the reporting year.

³ A copy of this memo is available for download at: <http://www.edcountability.net>

For an Exit Group:

Numerator: Number of CTE concentrators who left postsecondary education and who received an industry-recognized credential, certificate, or degree during the reporting year.

Denominator: Number of CTE concentrators who left postsecondary education during the reporting year.

3P1—Postsecondary Retention or Transfer

The state is considering assessing postsecondary retention or transfer of CTE concentrators who were identified in an entry cohort and who remained enrolled three years later. For example, a CTE concentrator identified in 2004–05 would be assessed three years later in the 2007–08 academic year, on their enrollment or transfer status.

Recommendation 1—Refine the state’s measure to reflect nonregulatory guidance.

Federal intent is to assess the extent to which postsecondary students who achieve concentrator status remain enrolled or transfer to another postsecondary institution in the year following their identification. Should the state use an entry cohort as its basis of measurement, the state should clearly define its measure construction to avoid appearing that it has a lower retention rate than states using an exit group. This could occur because states using an entry cohort would assess students’ three-year retention, as compared to a one-year retention rate for those using an exit cohort. Accordingly, MPR recommends that the state consider adopting the following measurement approach to structure state reporting:

For an Entry Cohort:

Numerator: Number of CTE concentrators who remained enrolled in their original postsecondary institution or transferred to another 2- or 4-year postsecondary institution within three years of achieving concentrator status.

Denominator: Number of CTE concentrators in the identified entry cohort.

For an Exit Group:

Numerator: Number of CTE concentrators who remained enrolled in their original postsecondary institution or transferred to another 2- or 4-year postsecondary institution during the reporting year and who were enrolled in postsecondary education in the fall of the previous reporting year.

Denominator. Number of CTE concentrators who were enrolled in postsecondary education in the fall of the previous reporting year and who did not earn an industry-recognized credential, certificate, or degree in the previous reporting year.

To ensure measurement focuses on retention or transfer, VCCS policymakers should net out students who earn a degree, certificate, diploma, or industry-recognized certification (i.e., the numerator of 2P1) for both the entry cohort and exit group.

4P1—Placement

The VCCS employs administrative record matching to track students who are employed within the state or federal government. As such, MPR recommends the state consider adapting the measure construction contained in federal nonregulatory guidance, irrespective of whether the state employs an exit group or entry cohort, with the provision that follow-up focuses on individuals who complete their program prior to exit (i.e., the numerator of measure 2P1).

Numerator: Number of CTE concentrators who completed their program and who were placed or retained in employment, or placed in military service or apprenticeship programs, in the 2nd quarter following the program year in which they left postsecondary education (i.e., unduplicated placement status for CTE concentrators who graduated by June 30, 2007 would be assessed between October 1, 2007 and December 31, 2007).⁴

Denominator. Number of CTE concentrators who completed their program and left postsecondary education during the reporting year.

Recommendation—Track the potential for using data contained in the Wage Record Interchange System (WRIS) for Perkins reporting purposes.

The WRIS was created by the federal government to assist states in responding to performance and reporting requirements contained in the Workforce Investment Act of 1998 (WIA) and programs authorized under the Wagner-Peyser Act. The WRIS serves as a clearinghouse for state Unemployment Insurance (UI) wage record data, which states may access to track the employment outcomes for individuals who participated in a state workforce investment program and subsequently left the state. States volunteering to join the WRIS agree to share UI wage record data with the Clearinghouse and other states, and in return, may access wage record data from participating members.

Virginia is one of 44 states currently using the WRIS for WIA reporting purposes. Participating states and territories include:

⁴ For an entry cohort, the state would assess concentrators who complete their program and exit in the 2nd quarter following the year of their program exit. This means that the analysts would need to compile placement data across three years for a given entry cohort to account for students who completed and exited prior to the three-year threshold.

Alaska	Louisiana	Ohio
Alabama	Maine	Oklahoma
Arizona	Maryland	Oregon
Arkansas	Massachusetts	Pennsylvania
Colorado	Minnesota	South Carolina
Delaware	Michigan	South Dakota
District of Columbia	Mississippi	Texas
Florida	Missouri	Utah
Georgia	Montana	Vermont
Idaho	Nebraska	Virginia
Illinois	Nevada	Washington
Iowa	New Jersey	West Virginia
Indiana	New Mexico	Wisconsin
Kansas	North Carolina	Wyoming
Kentucky	North Dakota	

Since WRIS data are only available for states participating in the WRIS, individuals employed in states not referenced above would not be available for employment tracking purposes.

WRIS Clearinghouse Operations

The WRIS Clearinghouse acts as an intermediary among states. Each state submits wage record data to the Clearinghouse for all individuals with employer-reported wages corresponding to a given time period. State data entered into the Clearinghouse, which include an individual's Social Security Number (SSN), the quarter for which wages have been reported, and the name of the state holding the detailed wage record information, are maintained for up to eight quarters.

When wage record data are needed, a state transmits a request file to the WRIS Clearinghouse that contains the SSN of individuals for whom employment data are needed. Clearinghouse staff matches these numbers against the centralized database to identify associated wage data, and matched records are noted. WRIS staff consolidates individual state data requests into state-level queries, which are then sent to each state agency holding the identified wage data. These queries consist of aggregated lists of SSNs identified across all by participating states.

Once a state agency receives a query, it attempts to match the SSNs in the file against information held in its own database. A response file, containing the requested wage data is returned to the WRIS Clearinghouse, where staff extracts wage record data and converts it into aggregate statistical data. Once a data request has been fulfilled, a state has 14 days to download the information; after this time, the WRIS Clearinghouse automatically purges the file from its server.

Unfortunately, the current Data Sharing Agreement that all states must sign to participate does not currently permit the use of WRIS data for Perkins purposes. In December 2007, Oregon and Washington State submitted a request to add the Perkins legislation to the list of acceptable WRIS

uses. Until this request is approved, which will require approval of states participating in the WRIS, states should not access the WRIS for Perkins accountability purposes. MPR recommends that VCCS staff monitor the status of the proposed change to the WRIS Clearinghouse operations to ensure that the state has access to Clearinghouse data once it is opened for Perkins purposes.

Recommendation—Consider specifying a process for unduplicating outcomes for individuals found in multiple placements.

Since individuals may be found in multiple outcomes, MPR recommends that state administrators consider developing a strategy for unduplicating data. Based on feedback from the Data Quality Institute, one possible approach might be:

- Classify completers as employed if at any point in the 2nd quarter they are found to be (1) employed only, (2) employed and on active duty in the military, (3) employed and participating in an apprenticeship program, or (4) employed, on active duty in the military, and participating in an apprenticeship program.
- Classify completers as active duty in the military if at any point in the 2nd quarter they are found to be (1) on active duty in the military only, or (2) on active duty in the military and participating in an apprenticeship program.
- Classify completers as participating in an apprenticeship program if at any point in the 2nd quarter they are found to be in an apprenticeship program only.

5P1/5P2—Nontraditional Participation and Completion

To assist states in identifying nontraditional occupations, the National Alliance for Partnerships in Equity has identified a list of occupations that are out of gender balance nationwide, based on 2006 Current Population Survey data. This list, which has been crosswalked to the 2000 Classification of Instructional Programs (CIP) codes at the 6-digit level, can be downloaded from OVAE’s Peer Collaborative Resource Network website (<http://www.edcountability.net/>).⁵

In keeping with prior guidance, OVAE has recommended that states identify secondary and postsecondary CTE programs and/or courses associated with nontraditional occupations once, at the outset of the new legislation. Once identified, states are to report on selected programs and/or coursework over the lifetime of the Act, irrespective of whether gender balances equalize over time. Holding the base of programs constant over time ensures that states can monitor trends to assess state progress in closing enrollment gaps.

Virginia has indicated that it will follow OVAE guidance on measure construction. That is, the numerator of each measure will encompass underrepresented students of either gender who participated in or completed a CTE program that prepares students for employment in a nontraditional occupation (i.e., females in male-dominated plus males in female-dominated occupations). The denominator will include all concentrators who participated in or completed a CTE program that prepares students for employment in a nontraditional occupation, irrespective

⁵ The U.S. Department of Education, National Center for Education Statistics, established the CIP to catalog educational program descriptions and titles at the secondary, postsecondary, and adult education levels. A CIP entry may include a 2-digit series that incorporates a summary of groups of instructional programs (e.g., #48 *Precision Production Trades*); a 4-digit series that includes an intermediate aggregation of instructional programs (e.g., #48.07 *Woodworkers*); and a 6-digit code corresponding to a single instructional program (e.g., #48.0702 *Furniture Designer and Maker*).

of their gender (i.e., males and females within the subset of CTE programs). Data for the reporting year would be reported in the CAR report submitted in December of the same reporting year.