OCTAE Technical Assistance to States

Final Summary Report for California

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Introduction

The Office of Career, Technical, and Adult Education (OCTAE), Division of Adult and Technical Education sponsors tailored technical assistance (TA) to support states in improving the quality of their *Perkins IV* data and accountability systems.

In response to OCTAE's October 2015 request for proposals, the California Department of Education (CDE) requested TA to support the incorporation of career and technical education (CTE) data into the state's longitudinal data system, the California Longitudinal Pupil Achievement Data System (CALPADS).

Since 2009, the state has used CALPADS to maintain individual-level data on K–12 education, including student demographics, course data, discipline, assessments, staff assignments, and other data for state and federal reporting. Until recently, districts submitted data on CTE programs solely to the state's Perkins Data System (PDS). Beginning in the 2014–15 school year, districts started entering data for *Perkins* reporting into both the PDS and CALPADS, as part of a transitional migration to the new system. This transition to CALPADS will allow the CDE to identify CTE students through K–12 course information already in the system, rather than collecting separate, and potentially duplicative, information, and to conduct more comprehensive analyses of the pathways that CTE students in California take through secondary education and into postsecondary education and the workforce.

To support the transition of *Perkins* data to CALPADS, California requested assistance with a number of questions related to CTE data collection and use, including the following:

- How do other states derive their CTE participant, concentrator, and completer statuses using course-level data?

- How do other states handle courses that might apply to more than one pathway?

- Do any states collect follow-up data through a statewide survey? If not, how do they collect their follow-up data?

- What capacity, if any, do vendor-provided school information systems have to generate and collect student follow-up data?

Technical Assistance Strategy

RTI International (RTI) briefly discussed TA needs with California in person at the annual Data Quality Institute meeting in November 2015, and the TA strategy was finalized during a kick-off meeting between RTI and CDE in January 2016. From these conversations, RTI developed a two-pronged strategy that included gathering information on other state approaches to CTE data collection and reporting and reviewing the current CALPADS documentation.

Phase I: Conduct state outreach

State outreach conversations were conducted with CTE state directors and data administrators in Florida, Michigan, North Carolina, and Texas from March to April 2016. These states were identified for either their comparable size to California (Florida and Texas) or their known use of course-level state data to identify CTE students (Michigan and North Carolina). Conversations focused on how these states identify secondary CTE concentrators and completers using available state-level data and how their systems manage CTE graduate follow-up data.

Findings from outreach to the four states were discussed with CDE during an April 6 conference call and summarized in an interim memo to CDE. In general, RTI found that all of the four states do derive CTE participants, concentrators, and completers from state-level data and offered different methods for CDE to consider. Likewise, states' definitions of CTE participants, concentrators, and completers differ, with two states using high school graduation as a proxy for CTE completion at the secondary level. In terms of follow-up data, some states use their data systems to track postgraduation outcomes, but local districts typically conduct the follow-up activities mostly because local staff have personal contacts with students and thus a better chance at getting responses to follow-up requests.

Exhibit 1 summarizes state-specific information collected during RTI's outreach conversations.

Exhibit 1. State-specific CTE data collection processes in Florida, North Carolina, Michigan, and Texas

	Florida	North Carolina	Michigan	Texas
Data System	CTE data are derived at the state level from three files: district reports on student enrollment and course information (*student file);* district reports on credits earned (*transcript file)*; and a state list of approved programs for CTE concentration.	North Carolina uses PowerSchool (a Pearson product) to collect data on K–12 students and generate reports. Each district has its own version of PowerSchool that rolls into the state system.	Michigan maintains a separate data system for CTE programs, called the Career Technical Education Information System (CTEIS), which can be linked to the state's longitudinal data system and the Michigan Student Data System.	Texas is in the process of transitioning its K–12 education data from the Public Information Education Management System (PIEMS) to the state's longitudinal data system, the Texas Student Education Data System. Currently, CTE data are included in PIEMS.
CTE Student Definitions	**Concentrator** – any student who takes three or more courses in a sequence of at least three courses. **Completers** – state does not define completers separate from high school graduates.	**Concentrators** – those students who have taken four courses in a particular cluster. **Completers** – all concentrators are considered completers upon high school graduation.	**Concentrator** – any student who has taken seven or more course segments and earned a 2.0 grade or higher. **Completers** – any student who has taken all 12 segments in a program and earned a 2.0 grade or higher.	**Concentrators** – students who have earned three or more credits in two or more courses in a CTE program of study. **Completers** – not defined at secondary or postsecondary level.
District Reporting	In the student file, districts report whether students are enrolled in a Program of Study, which allows the state to then identify each student's specific sequence of courses from the transcript file and determine concentrator status.	Districts report course codes by cluster and course level and associate the appropriate number of credits directly into PowerSchool.	CTE standards are grouped into "segments," which allows districts to code those segments addressed by each course. Each CTE program must include 12 segments. When reporting course information, districts identify which segments are covered and then enter student enrollment information.	Within PIEMS, districts identify student participation in CTE courses as either elective (code 1) or as part of a coherent sequence (code 2).
Follow-Up Data	The state collects follow-up data on students through administrative records matching enabled by data-sharing agreements with postsecondary and workforce agencies.	PowerSchool generates a list of students identified as graduates and concentrators for districts. Districts contact and survey students by telephone and track student data in PowerSchool.	Districts generate a list of completers from CTEIS, conduct follow-up surveys, and enter the results into CTEIS. The state contracts out validation and verification analyses to confirm the reported data.	Student follow-up information is obtained through administrative records matching with the Texas Higher Education Coordinating Board, which uses Social Security Numbers to locate matches.

Phase II: Review CALPADS documentation

CTE data are currently entered at the district level into PDS and CALPADS, and data from both are cross-checked for inconsistencies. California has defined state secondary course codes to which districts map their courses. Local districts maintain considerable flexibility in terms of how they structure their CTE pathways and name local courses. CDE relies on the districts to progress the student through the courses in the appropriate sequence, and assumptions are drawn from that at the state level. For instance, if a student is in a concentrator course, the assumption is made that the student previously completed an introductory course.

California defines **participants** as any students who have taken a CTE course. **Concentrators** are students who have completed more than 50 percent of a pathway (usually two or more courses, depending on the district). **Completers** have completed two or more courses in a pathway sequence, including passing a capstone course with a grade of C or better.

Like many states, California collects follow-up information on CTE graduates for *Perkins* reporting by surveys conducted at the local level.

CDE has developed extensive resources and provides considerable guidance to support the integration of *Perkins* data into CALPADS. As in other states, processes have been established to allow CDE to calculate CTE participants, concentrators, and completers and handle students enrolled in multiple pathways at one or more schools. A thorough review of CDE's documentation shows that the CTE data needed for *Perkins* reporting is included within its system. Exhibit 2 shows a list of the data elements within CALPADS that pertain to CTE.[1]

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[1] CALPADS Data Guide v7.1, effective May 19, 2016, http://www.cde.ca.gov/ds/sp/cl/systemdocs.asp.

Exhibit 2. CALPADS student CTE information data elements

Field #	Data Element Public Name	Comment
11.13	CTE Pathway Code	• For each student who is a CTE concentrator, LEAs must indicate the student's pathway, using a CTE pathway code (one code/pathway per CTE concentrator). • If a student has multiple pathways, the LEA can submit multiple records representing each pathway. • Each student who has a CTE pathway will be counted for federal reporting purposes as a "CTE concentrator." • In order to report a student as a "CTE concentrator" for a specific CTE pathway, the student must also have completed at least one course in the reporting academic year in that pathway. That course must be reported in the Student Course Section Completion submission.

11.14	CTE Pathway Completion Academic Year ID	• For each student who completed a specific Career Technical Education Pathway, LEAs must identify the Academic Year in which the CTE Pathway was completed.
		  ○ This data element is to be populated **only** if the student completed the specified pathway during the academic year being reported.
		  ○ The CTE Pathway Completion Academic Year ID, if populated, **must** match the Academic Year ID in the file (i.e., in a given academic year, LEAs need to submit for students who completed in that academic year, and not for students who completed the year before).

9.07	CRS-State Course Code	• LEAs submit course completion data to the CDE at the end of the year. From these data, the CDE extracts what is required to determine the LEAs' CTE participant counts. • Specifically, State Course Codes (formerly known as CBEDS Assignment Codes) in the 4000 and 5000 series are CTE courses. All students completing CTE courses or who have designated pathways will be counted as "CTE participants" for federal Perkins reporting purposes. • LEAs do not have to submit any additional data for CTE participant counts. The program staff at the LEAs, however, should check that their CTE courses are mapped to the appropriate CTE state course codes.
9.10	CRS-Course Content Code	• CTE pathways often include courses that do not map to State Course Codes in the 4000–5000 series because they may be mapped more appropriately to other subject areas, such as English language arts, math, or science. LEAs may indicate that such courses are part of CTE pathways by using the Education Program Course Content Code: *Career Technical Education: Code 154*; however, this code can only be used for specific courses that have been identified by the CTE Program Office as courses that would be logical parts of a CTE course sequence. If this field is populated for a course than the Academic/CTE Course Indicator via the Group Master Combos via the Valid Code Combinations cannot be NULL for the corresponding State Course Code that is not in the range of 4000 to 5999.
9.12	CRS-CTE Technical Preparation Course Indicator	In 2015-2016 this data element was re-purposed. It had previously been called CRS-CTE Technical Preparation Course Indicator, however it was later discovered that the CTE Tech Prep program actually sunset prior to implementation in CALPADS. The prior year data associated with this data element have been removed from the database and this data element will now be used to collect information on whether or not a CTE course has been articulated with a postsecondary institution.

Field #	Data Element Public Name	Comment
9.27	CTE Course Section Provider Code	This data element is required for each CTE course section. It indicates whether a given CTE course section is provided by: • A Regional Occupational Center or Program; *or:* • The District. o Even if a given school does not have a formal CTE program, if a course has been mapped to a CTE Course Code, the LEA should select the "District" option.
9.26	Education Program Funding Source Code	This data element indicates whether a given course is funded by California Partnership Academy program funds. If it is not funded by California Partnership Academy program funds, the field should be left blank.

Issues for Consideration/Next Steps

RTI and CDE held a conference call on May 20 to review TA findings to date and discuss possible next steps. During that call, CDE brought up issues that are still outstanding in trying to migrate CTE data collection to CALPADS from PDS. It had planned to move CTE entry from the PDS to the CALPADS system for the 2016–17 school year, but with the 2015–16 CTE data collected in both systems, it discovered many inconsistencies, and CDE does not feel that it can move to the one system just yet. While the state provides thorough definitions and instructions on how to enter data into CALPADS, districts still have challenges. Primarily, there is variety at the local level in terms of how districts map their codes to the state's framework, which has led CDE to consider further streamlining course codes at the state level.

CDE is currently looking to collapse codes into three courses per pathway: introductory, concentrator, and capstone classes. An issue here is with pathways that may only comprise two courses and how to deal with them. Additionally, since an introductory course might prepare students for multiple pathways, it will likely need to be coded by industry sector. This means that there might be three course codes per pathway, plus one industry code, or that some codes might represent "combination" courses (e.g., an introductory and a capstone course).

As discussed with CDE, RTI recommends the following next steps for CDE to explore:

- Develop a revised course framework at the state level.

- Create a crosswalk across state and federal reporting requirements for CTE to ensure consistency in definitions and reporting procedures for districts.

- Consider increasing the number of trainings for districts, or conduct targeted trainings in districts with a higher level of inconsistent data.

Conclusion

California has taken a thoughtful and measured approach to migrating its CTE data from PDS to CALPADS and continues to successfully refine this process based on ongoing analysis of the PDS and CALPADS data. Based on the state outreach and data system review laid out in this TA project, RTI concludes that California has the documentation and processes in place to further the work it needs to do to bring its CTE data entry into its state longitudinal data system successfully.

Appendix A: April 6, 2016, Presentation

State Approaches for Identifying CTE Students in State-Level Data

Technical Assistance for California

Laura Rasmussen Foster and Jeanne Snodgrass
April 6, 2016

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Agenda

- Overview of work conducted to date
- Summary of state approaches
- Discussion/next steps

TA/Research Questions

1. Are states using state-level data (e.g., course data/transcripts) to identify CTE participants, concentrators, and completers? If so, how?

2. How do districts report CTE information to the state?

3. What processes are states using to track student outcomes once they graduate from high school?

State Outreach Conducted

- Florida
- Michigan
- New York (N/A)
- North Carolina
- Texas
- Washington (pending)

Summary of Cross-State Findings

- It is possible to identify CTE participants, concentrators, and completers from state-level data.

- All of the sample states have different definitions for participants, concentrators, and completers. *However, at least two states don't identify completers at the secondary level*

- Some states have standard definitions of a CTE program or pathway and, in others, it varies by districts.

- State MIS systems can manage the process for tracking post-graduation outcomes, but local districts typically conduct the follow-up activities.

- Following up at the state level is perceived to be difficult.

Florida

- Process for identifying CTE students:
  - Districts report on student enrollment and course information (*student file*)
  - Districts report on credits earned (*transcript file*)
  - State maintains a list of approved programs for CTE concentration

- Concentrators: Students who take 3 courses in a sequence of at least 3 courses
  - Districts identify whether students are part of a POS, then state identifies sequence of courses from transcript file
  - State does not define completers separate from h.s. graduates

- Follow-up data gathered through administrative records matching with the state PS and WF agencies

Michigan

- Process for identifying CTE students:
  - Maintains separate CTE data system—the Career Technical Education Information System (CTEIS)
  - Facilitated instructor-led process to group CTE standards into segments
  - Courses are coded by segments to account for different lengths and formats (program = 12 segments)

- Concentrators: Students who take at least 7 segments with a 2.0 or better
  - Completers are those students who take all 12 segments with a 2.0 or better

- Lists for student follow-up generated by CTEIS
  - Districts conduct follow-up surveys and enter results into CTEIS
  - State contracts out for nonrespondent and verification studies

North Carolina

- Process for identifying CTE students
  - PowerSchool - Each district has their own version of PowerSchool that rolls into the state system
  - The system at the state level automatically determines concentrators based on the credits and courses entered by the districts

- Concentrators: Students who have taken four courses in a particular cluster
  - If a student is a concentrator, they are also considered a completer

- Follow-up Process
  - PowerSchool generates lists of students identified as graduates and concentrators for districts
  - Graduates surveyed 6 months after graduation by districts, via phone.
  - Information entered in PowerSchool and fed to state level.

Texas

- Process for identifying CTE students
  - Districts report all data through the Public Information Education Management System (PIEMS)
  - Districts code CTE courses as either electives or part of a program of study; students identified as "coherent sequence takers"

- Concentrators: Student earned 3 or more credits in 2 or more courses in a CTE program

- Follow-up data gathered through administrative records matching with the Texas Higher Education Coordinating Board

Discussion/Next Steps

Appendix B: May 20, 2016, Presentation

Identifying CTE Students in CALPADS State-Level Data

Technical Assistance for California

Laura Rasmussen Foster and Jeanne Snodgrass
May 20, 2016

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Agenda

- CDE Research Questions

- CTE Definitions/Calculations

- Questions/Discussion

CDE TA To States Research Questions

- How do other states derive their concentrator, completer and participant statuses? What are their definitions?

- How do other states handle courses that might apply to more than one pathway?

- Are any states collecting follow-up data through a statewide survey? If not, how do they collect their follow-up data?

- What capacity, if any, do vendor-provided school information systems have to generate and collect student follow-up data?

TA Process

1. Conduct state outreach
2. Review CALPADS documentation
3. Produce summary memo (with possible district scenarios)

Step 1 -- Cross-State Findings

- It is possible to identify CTE participants, concentrators, and completers from state-level data.

- All of the sample states have different definitions for participants, concentrators, and completers. *However, at least two states don't identify completers at the secondary level.*

- Some states have standard definitions of a CTE program or pathway and, in others, it varies by districts.

- State MIS systems can manage the process for tracking post-graduation outcomes, but local districts typically conduct the follow-up activities.

- Following up at the state level is perceived to be difficult.

Step #2 – Review California CTE Definitions

For Perkins reporting, a California Department of Education (CDE) **CTE participant** falls into one of three groups:

- **CTE Concentrators** - Completed 50 percent of a pathway (two or more courses, but the number varies by school) and enrolled in the next course.

- **CTE Completers** - Completed 2 or more courses in a pathway sequence, including a capstone course which they must pass with a C or better.

- **CTE Non-Concentrator Participant** - Taking a CTE course, but not in a pathway.

CTE Calculations

- **CTE Concentrators** - calculated by counting all students who have been given a CTE Pathway Code (Field 11.13) in the Career Technical Education File.

- **CTE Completers** - calculated by counting all students who have a CTE Pathway Completion Academic Year (Field 11.14) entered in the Career Technical Education File.

- **CTE Non-Concentrator Participants** - Calculated by counting all students who have completed one or more CTE courses. These CTE courses can be found in the 4000–5000 series of codes of the Course Group State code set in the CALPADS Code Sets document. This calculation includes students enrolled in courses with CTE course codes but who do not have a formal CTE program.

CTE Calculations (continued)

- CDE aggregates the pathway counts for concentrators and completers into the federal Perkins reporting categories (California's CTE pathways roll up into the federal CTE industry sectors). A mapping of California's CTE pathways with the federal CTE industry sectors can be found in the CALPADS Valid Code Combinations document within the tab labeled "CTE Pathway - CTE Industry Sect".

- The CDE also reports the CTE concentrators, completers and participants by the various subgroups required for federal Perkins reporting using student demographic and program data already maintained in CALPADS.

CTE Data Elements

The following *course characteristics* data elements are used for CTE reporting.

Field #	Data Element Public Name	Comment
9.07	CRS-State Course Code	State Course Codes (formerly known as CBEDS Assignment Codes) in the 4000 and 5000 series are CTE courses. Students completing these courses are considered CTE participants for federal Perkins reporting purposes. See the Career Technical Education section in Chapter 3, Student Populations and Program Areas, in this guide for a full explanation.
9.10	CRS-Course Content Code	CTE Pathways often include courses that do not map to State Course Codes in the 4000-5000 series (CTE courses) because they may be mapped more appropriately to other subject areas, such as English language arts, math, or science. LEAs may indicate that such courses are part of CTE pathways by using the CTE Course Content Codes.
9.12	CRS-CTE Postsecondary Articulated Course Indicator	In 2015-2016 this data element was re-purposed. It had previously been called CRS-CTE Technical Preparation Course Indicator, however it was later discovered that the CTE Tech Prep program actually sunsetted prior to implementation in CALPADS. The prior year data associated with this data element have been removed from the database and this data element will now be used to collect information on whether or not a CTE course has been articulated with a postsecondary institution.
9.27	CTE Course Section Provider Code	This required data element indicates whether a given CTE course section is provided by: • A Regional Occupational Center or Program; or: • The District. NOTE: Even if a given school does not run a formal CTE program, if it provides a course that meets a CTE course code description, then Field 9.27 should reflect "district."
9.26	Education Program Funding Source Code	This data element indicates whether a given course is funded by California Partnership Academy program funds.

CTE Data Elements

The following *course characteristics* data elements are used for CTE reporting.

Field #	Data Element Public Name	Comment
11.13	CTE Pathway Code	• For each student who is a CTE concentrator, LEAs must indicate the student's pathway, using a CTE pathway code (one code/pathway per CTE concentrator). ◦ If a student has multiple pathways, the LEA can submit multiple records representing each pathway. • Each student who has a CTE pathway will be counted for federal reporting purposes as a "CTE concentrator." • In order to report a student as a "CTE concentrator" for a specific CTE pathway, the student must also have completed at least one course in the reporting academic year in that pathway. That course must be reported in the Student Course Section Completion submission.
11.14	CTE Pathway Completion Academic Year ID	• For each student who completed a specific Career Technical Education Pathway, LEAs must identify the Academic Year in which the CTE Pathway was completed. ◦ This data element is to be populated only if the student completed the specified pathway during the academic year being reported. ◦ The CTE Pathway Completion Academic Year ID, if populated, must match the Academic Year ID in the file (i.e., in a given academic year, LEAs need to submit for students who completed in that academic year, and not for students who completed the year before). The student's completion of the pathway gets reported only one time, for the academic year in which it occurred. So the CTE Pathway Completion Academic Year ID will be blank unless the student completed the pathway during the academic year being reported.

Special Situations

- For students enrolled in CTE Pathways in two different schools: LEAs should report each CTE Pathway according to each school that is administering the Pathway. The School of Attendance field in the SCTE record should reflect the school code of the administering school.

- For students enrolled in two or more CTE Pathways in the same school: LEAs should report two SCTE records for the students—at the same school, with the different pathways.

Observations

- CDE has developed resources and provides considerable guidance to support integration of Perkins data into CALPADS.

- As in other states, processes have been established to allow CDE to:
  - Calculate CTE Participants, Concentrators and Completers
  - Handle students enrolled in multiple pathways at one or more schools

- Across the state sample, definitions of CTE completers, concentrators, and participants differ, as does the level of detail captured in state data systems.

Discussion

Current Status

- How is the transition to CALPADS working for districts so far? Where are they encountering challenges?
- How does data compare between the old and new reporting systems?
- How are follow-up data being captured by CALPADS?

Next Steps

- What are the next steps for integrating Perkins data into CALPADS?
- In addition to creating a summary memo, what further support can RTI provide within the remaining timeframe (by June 30)?

Discussion/Wrap Up