Technical Assistance to States 2019–20

Final Report to the New Jersey Department of Education

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Overview

The U.S. Department of Education’s Office of Career, Technical, and Adult Education (OCTAE) offers states and other career and technical education (CTE) providers technical assistance (TA) on topics related to CTE data collection, reporting, and accountability through its TA to States program. The New Jersey Department of Education (NJDOE) applied for TA in fall 2019, requesting assistance in identifying best practices in defining and tracking student participation in work-based learning (WBL), data-driven decision making, CTE program monitoring, and tracking secondary student outcomes.

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Introduction

The U.S. Department of Education, OCTAE, offers states the opportunity to apply for and receive TA on topics related to CTE data and accountability. RTI International provides research support and technical assistance under contract to OCTAE.

TA specialists from RTI (i.e., “the TA team”) coordinated with NJDOE staff members, to identify and address New Jersey’s TA needs, including Erskine Glover, Director; David McNair, CTE Program Specialist; Kathleen Paquette, Manager; Sharon Fleming, Perkins Coordinator; Shinlan Liu, Planning Associate; Lisa Haberl, Education Specialist, Teacher Certification; Maria Casale, Planning Associate; and David Gehrke, Structured Learning Experiences.
Questions

The TA team and New Jersey state staff members reviewed and refined the state’s TA needs during an October 2019 kick-off meeting and in check-in meetings in January, May, and July 2020. The following topics and questions guided the TA:

- **WBL**
  - How are states defining WBL to distinguish between levels of student engagement with work?
  - How are states collecting data on students’ participation in WBL?
  - What is the role of competency-based education in WBL?
  - How are states adapting WBL to the COVID-19 pandemic?

- **Tracking student outcomes**
  - How are states tracking postsecondary and employment outcomes for secondary CTE concentrators?

- **Data-driven decision-making**
  - What are promising practices in data sharing with local CTE providers?

- **State practices in CTE program monitoring**
  - How do states select schools and districts for on-site monitoring visits?
  - How do states use the monitoring process to support and provide TA to local CTE providers?
Recommendations (Slide 1)

Defining and tracking WBL experiences—States that have chosen WBL participation as their Perkins V program quality indicator track experiences that align with the Perkins V definition. Outside of Perkins reporting, New Jersey and other states track other types of WBL experiences including career exploration, career preparation, and career training activities. In addition to data on student participation, NJDOE could consider the following approaches for collecting information on the quality of WBL experiences and their alignment with CTE coursework:

- **Online WBL data systems:** Massachusetts and Ohio’s online reporting systems capture detailed information of students’ WBL experiences (e.g., type or number of hours, industry of the host employer) from CTE teachers and WBL coordinators. These data can be used to track WBL quality and identify gaps by program or industry.

- **WBL course codes.** Wisconsin uses School Courses for the Exchange of Data (SCED) codes to track WBL experiences by industry and type, and Oregon has separate course codes for each level of WBL experience the state defines.

Competency-based approaches to WBL—Examples of competency-based approaches to WBL are limited but growing. In response to the COVID-19 pandemic, Minnesota began allowing students to partially satisfy WBL requirements by earning industry-recognized credentials. Several states, including California, Delaware, Louisiana, and Ohio have developed competency-based badging programs that recognize students’ attainment of technical or career readiness skills.
Recommendations (Slide 2)

Adapting WBL experiences in response to the COVID-19 pandemic—New Jersey and other states have provided guidance and support to local sites on providing WBL experiences when worksites placements are not an option. Strategies with potential relevance for New Jersey include the following:

- Virtual WBL: Tennessee is supporting virtual project-based learning with employers, and Louisiana offers a Virtual Workplace Experiences II course that features interactions with employers.
- Career and Technical Student Organization (CTSO)-connected experiences: States are working with CTSOs to develop virtual opportunities to interact with industry professionals (e.g., Tennessee).
- Guidance for teachers and WBL coordinators: States are supporting WBL staff with building flexibility into student WBL training plans and identifying alternatives to workplace placements for achieving students’ goals.

Tracking student outcomes—New Jersey plans to survey CTE concentrator graduates to track employment and postsecondary enrollment outcomes while exploring options to link secondary student records to postsecondary and workforce data systems. NJDOE was recently awarded a $3.25 million grant from the National Center for Education Statistics to improve and automate cross-agency data sharing. As next steps, the NJDOE Office of Career Readiness could coordinate with the Office of Information Technology to do the following:

- Support efforts to connect data for CTE concentrators to postsecondary and workforce data to meet Perkins reporting requirements.
- Identify strategies for linking education and employment data that do not require the collection of Social Security numbers, such as iterative matching algorithms using name and birthdate.
Recommendations (Slide 3)

Data-driven decision-making—States are providing districts with program and student data reports and including guidance on data-driven decision-making in comprehensive local needs assessment (CLNA) guides. New Jersey’s CLNA guide is similar in scope and detail to the best examples the TA team observed in other states, such as Florida. As a next step, NJDOE could take advantage of the biennial CLNA review and revise (as needed) the guide by asking local providers questions such as the following:

- Did you use guidance provided by NJDOE? If so, how?
- What other data and data analyses did you use to inform program improvement?
- What additional guidance or data would be helpful for NJDOE to provide?
- What guidance provided by NJDOE was not helpful or difficult to implement?

The state could also ask local districts whether they would be willing to host NJDOE staff to observe the CLNA process and identify potential areas for additional support and guidance.

CTE program monitoring—States using risk-based monitoring select sites using criteria that are based on past reviews and known risks in their states. Multiple states frame monitoring visits as TA to encourage collaborative local provider–state relationships. New Mexico and North Carolina, for example, only designate legal violations as “findings” and refer to challenges that may impact program quality or student outcomes as “issues for consideration.” Minnesota provides opportunities for sites to report what is working well during monitoring visits, and North Carolina issues commendations along with findings and recommendations in monitoring reports.
WBL Definitions

Most states have adapted the legislated definition of WBL for *Perkins V* accountability reporting, focusing on experiences that feature sustained interactions with employers and industry representatives (e.g., internships, apprenticeships, cooperative education, and clinical experiences). Some states have supplemented the Perkins definition by specifying the minimum number of hours that students must spend on the worksite or in contact with their work supervisor:

- Ohio requires 250 hours of cumulative WBL experience throughout high school
- New York requires 54 hours
- North Dakota requires 40 hours

Other states have specified the types of WBL experiences that will count toward the *Perkins V* quality indicator:

- Colorado includes the following activities in data reporting for the Perkins WBL quality indicator: apprenticeship, on-the-job training, clinical experience, credit for work experience, internship, pre-apprenticeship, industry-sponsored project, and school-based enterprise managed by students. The state tracks, but does not include in reporting for *Perkins V*, career exploration activities, such as career counseling, career fairs, or worksite tours.
WBL Data Collection

Outside of Perkins reporting requirements, states have adopted varying approaches to using WBL data collection systems or course codes to collect information on students’ WBL experiences such as relevance to the students’ CTE program, industry, and skills.

- WBL data systems that collect data from instructors and others
  - Georgia’s C-NET database allows students and WBL coordinators to create individualized student WBL plans that can be connected to the Occupational Information Network (O*NET) for occupation-specific task lists.
  - Tennessee has a WBL database in which WBL teachers may upload student WBL plans, exit surveys, and related records or documents.
  - The Massachusetts Career Ready Database tracks student WBL participation through data entered in Work-based Learning Plans by WBL participants, employers, school staff and program coordinators, and cooperative education coordinators.

- Course codes that document WBL experiences
  - An elective course code that is included in a career cluster (Florida)
  - Add-on credit for a course (Georgia)
  - A capstone course for a CTE program (Delaware, South Dakota, Tennessee, West Virginia)
  - Wisconsin uses SCED codes to track WBL experiences by industry and type (e.g., apprenticeship, internship)
WBL and Competency-Based Education (Slide 1)

While there are challenges to introducing competency-based education strategies to WBL, such as hours requirements, some states have combined WBL and competency-based education through the following:

Skill-based training plans: WBL training plans are typically developed collaboratively with students, teachers, and employers. Some incorporate state-established “minimum competencies” aligned with the WBL experience, such as Texas’ Essential Knowledge and Skills. The plans also identify additional target skills, based on students’ career interests, job descriptions, and employer input.

Badging programs: In some states, badges recognize and reward students’ attainment of career readiness skills.

- To earn the OhioMeansJobs-Readiness Diploma Seal, students have employers or other types of mentors verify their proficiency in 15 professional skills selected by the state business community.
- California’s New World of Work program offers secondary and postsecondary trainings and the opportunity for students to earn employer-verified badges for completed trainings.
- ImBlaze, an internship management web app, allows employers/mentors to provide feedback on student performance and post endorsements on LinkedIn. Louisiana employs ImBlaze as part of its Virtual Workplace Experience course.
WBL and Competency-Based Education (Slide 2)

Career readiness skills courses are designed to impart the professional and employability skills students need for successful WBL experiences.

- Delaware and Tennessee offer WBL practicums to teach employability skills, set standards for expected skills, and provide credit for skills learned in immersive experiences.
- CareerWise Colorado combines classroom-based instruction in career readiness and employability skills with youth apprenticeships that students attend two to three days a week.

The school and business closures resulting from the COVID-19 pandemic have spurred interest in competency-based approaches to WBL as an alternative to face-to-face, sustained interactions with industry professionals.

Delaware’s WBL practicum course: The Delaware Department of Education’s competency-based practicum course teaches skills and competencies endorsed by employers. Students who complete the practicum will be included in Delaware’s 5S3 counts. The state has plans to award students badges for mastering the skills taught through the practicum.
WBL and the COVID-19 Pandemic (Slide 1)

In response to the COVID-19 pandemic, states have adjusted WBL hours requirements or identified alternatives to in-person WBL:

- Wisconsin reduced requirements for time spent in WBL experiences related to CTE program instruction by about 25 percent.
- Minnesota and Tennessee have proposed project-based internships, work with remote technology (e.g., video or phone conferences), and attainment of industry-recognized credentials as WBL alternatives.

In preparation for 2020–21, state education agencies conducted employer outreach via surveys and CTE teacher outreach asking employers the following:

- Will your organization be offering WBL opportunities?
- What safety precautions will your organization have in place in workplaces?
- How has your organization adapted day-to-day operations in response to restrictions due to the COVID-19 pandemic?
WBL and the COVID-19 Pandemic (Slide 2)

- In preparation for the 2020–21 school year, Louisiana reviewed existing credential fact sheets to identify which components of credential preparation required in-person learning and which could be accomplished remotely.

- Western Maricopa Education Center in Arizona leveraged the expertise of teachers hired from industry in assessing WBL opportunities and strategies.

- States have advised WBL coordinators and teachers to build flexibility into student training plans in response to workplace or school closures. Examples include virtual projects that can
  - replace workplace experiences,
  - count toward hours requirements, and
  - be included in student portfolios.

- In Tennessee, students are producing training videos or creating safety plan documentation.

- The COVID-19 pandemic has also prompted reviews of student training goals for feasibility given current and anticipated restrictions.
Tracking CTE Student Outcomes: Data Collection

States use one of two methods to gather employment and postsecondary outcomes data for CTE concentrators:

- **Post-graduation surveys of CTE concentrators**
  - **Strength**: Surveys are easily updated for Perkins V, for example, to add participation in volunteer service.
  - **Drawback**: Surveys require significant staff resources to administer and process, and response rates are typically low.

- **Longitudinal data systems**
  - Secondary student records are connected to individual records in other agencies (e.g., postsecondary, workforce development) or organizations (e.g., National Student Clearinghouse). Starting in 2020, a $3.25 million grant from the National Center for Education Statistics to the NJDOE Office of Information Technology will improve data sharing between NJDOE, the New Jersey Department of Labor and Workforce Development (for wage data), and the New Jersey System of Higher Education.
  - **Strength**: Data are typically available on more students than CTE programs can contact in follow-up surveys and require less staff and resources to collect.
  - **Drawback**: Data security requirements can limit or complicate data sharing, and changes in data reporting requirements can be costly and time consuming to implement. For some types of data, match rates can be low.
Tracking CTE Student Outcomes: Linking Agency Data

A significant hurdle to connecting education and employment data is the lack of a common identifier across data systems—like many states, NJDOE does not collect Social Security numbers (SSNs). To match data in the absence of SSNs, states employed matching algorithms. Kentucky, for example, matches state education and labor agency records using the following:

- First name, last name, and/or middle initial
- Date of birth
- Gender
- Ethnicity

Rutgers University developed a matching process to connect NJDOE data to unemployment insurance data with an 82 percent match rate using an iterative matching algorithm that employed the following:

- **Exact matching** on first name, last name, date of birth, and sex
- **Substring exact matching** on date of birth, sex, and partial first and last names
- **Cross-validation** to find alternative key variables when multiple records exist for one person
- **Fuzzy matching**, using algorithms developed by the U.S. Census Bureau, to identify potential matches affected by typos or misspellings, flagging those potential matches for human review
Data-Driven Decision-Making: Data Shared with Local Providers

In response to Perkins V’s emphasis on data-driven decision-making in CTE, states have developed guides for conducting CLNA and provided districts and postsecondary institutions with data reports that include data on the following:

- **Student performance** on Perkins core indicators (Nebraska) and CTE program outcomes (Florida).
- **Labor market alignment** that connects CTE programs and annual job openings, entry-level wages (Kansas), and in-demand occupations lists (Florida).
  - In Florida, sites must document CTE program and industry alignment using one primary or two secondary labor market data sources identified by the state. The states’ Comprehensive Local Needs Assessment Toolkit details how to assess student performance, labor market alignment, equity and access, and other topics.
- **Equity gaps** and guidance on identifying and addressing equity gaps through CLNA guides, such as those produced by Florida, Minnesota, New York, Oregon (Appendix M). The reports provide enrollment/performance rates across CTE student populations and analyses of promotional materials, recruitment, and facilities in terms of equity and access for special populations.
Data-Driven Decision-Making: Data Suppression for Small Groups

State education agencies are required to suppress data on small groups of students (generally less than 10). This presents a challenge to sharing actionable data with education stakeholders—there are, unfortunately, no perfect solutions to this challenge.

Some states maintain password-protected data analysis tools that allow CTE administrators and teachers access to unsuppressed data. Arkansas' data dashboard and Delaware’s EdInsight dashboard allow analysts to review student-level data. The data can only be shared, however, with a small group of stakeholders.

The “re-aggregation” of data over multiple years or a group of schools can allow state agencies to share data that may yield insights on trends and challenges in particular student groups, at the expense of granularity or precision in time. To limit the need for data suppression, some states also report averages over three or more years rather than data for each year.
Risk-Based CTE Program Monitoring

Risk-based monitoring assesses the likelihood (i.e., “risk”) that sub-grantees will not meet Perkins or state requirements and prioritizes higher risk sub-grantees for closer review and intervention. In CTE program monitoring, this type of monitoring typically involves three phases:

- **Risk assessment**—Local CTE providers are scored on a set of criteria set by the state. Based on their score, CTE providers may be slated for *desk monitoring* or *on-site monitoring*. See Appendix for an example of how Iowa uses its risk assessment rubric.

- **Desk monitoring**—In most cases, desk monitoring is reserved for sites with low to moderate levels of assessed risk.

- **On-site monitoring**—On-site monitoring is generally reserved for sites with the highest levels of assessed risk.

The level of effort, staff hours, and number of staff involved in the monitoring process varies by phase, with on-site monitoring requiring the most staff time. To ensure sufficient staffing for on-site visits, Georgia and Iowa recruit personnel from outside the CTE office, and Colorado and Florida coordinate CTE monitoring with other K–12 monitoring processes.

“Risk” can be a loaded word, leading some states to use different terminology to describe the process to put those being monitored at ease. Moreover, some of the factors that signal higher “risk” may not be based on a school or district’s performance—for example, states may prioritize schools for on-site visits if it has been a while since the last visit.
CTE Program Monitoring: Selecting Districts for On-Site Visits

To conduct the risk assessment, state CTE staff review local CTE provider documentation against a set of state-identified risk factors. These typically fall into the following categories:

- **Finance**—Expenditures and spend-down rates for grant funding
- **Monitoring history**—Negative findings from previous audits, time since last monitoring visit
- **Quantitative data findings**—Low CTE student achievement, presence of a performance improvement plan to help students achieve performance targets
- **Staff stability**—Administrative turnover, tenure of CTE director (directors new to the job are considered higher risk)
- **Volume of grant funding**—Higher risk is attributed to larger grant amounts
- **Other program characteristics**—Non-adherence to state-defined quality or program standards, lack of provisions to promote equitable access for special populations
- **Professional development**—Low CTE teacher participation rates in professional development
- **Data quality concerns**—Concerns with the quality/reliability of CTE student data or the ability of an LEA to report their data on time
- **Size**—Enrollment of the sub-recipient (the more CTE students, the higher the “risk”)
CTE Program Monitoring: Desk Monitoring

Sites with moderately high levels of assessed risk may be selected for desk monitoring. During desk monitoring, the state will request and review documentation from local CTE providers, including spending reports, CTE plans, budgets, records of professional development activities CTE teachers have participated in, and performance improvement plan summaries.

Desk monitoring may occur prior to or instead of on-site visits, and the same or a varying number of sites may receive desk monitoring each year:

- North Carolina: 12 of the 18 sites (out of a total of 115 subgrantees) that the state selects for additional review as a result of the risk assessment annually receive desk monitoring. The other six receive an on-site visit.
- Missouri has a three-year monitoring cycle, with three cohorts. All sites in a cohort receive risk assessment in year one. A subset of the sites receive desk monitoring in year two; a subset of those host on-site monitoring visits in year three.
CTE Program Monitoring: On-Site Monitoring

On-site monitoring is generally reserved for sites with the highest levels of assessed risk. As noted on the previous slide, the number of sites selected for on-site monitoring varies from state to state and from year to year and may be adjusted to fit staff capacity (as in Tennessee). During on-site visits, in addition to local CTE plans, monitoring staff review

- results of Performance Improvement Plans if the site scored below 90 percent of its target on student performance indicators,
- time and effort tracking, including the amount of state and federal funds charged for CTE activities, and
- general ledgers for review of CTE-related expenditures.

Even if some or all these materials were reviewed during the desk monitoring process, monitoring staff may review these documents with local CTE administrators and teachers on-site and take a physical inventory of CTE equipment.

The level of effort for on-site monitoring can range from a half a day to several days per site and, depending on the number of sites selected, can involve from one to eight monitoring staff.
Some states framed the monitoring process as TA and promoted a more constructive, less “adversarial” relationship between monitoring staff and local CTE providers by doing the following:

- Some states reserve the term “finding” for violations of law (Iowa, New Mexico, North Carolina).
- These states may use more neutral terms such as “issues for consideration” or “recommendations” for relatively serious issues that are not violations of law and “best practices” as suggestions for minor issues (New Mexico).
- North Carolina provides commendations as well as recommendations.
- Monitoring staff in Minnesota ask site administrators to present “points of pride” and success stories during monitoring visits.

**How do states handle cases of repeated findings?**

- Findings prompt performance improvement plans (PIPs).
- States review PIPs in subsequent monitoring cycles or separately from the monitoring process.
- Findings are often a risk factor prompting review in subsequent monitoring cycles.
CTE Program Monitoring: Iowa Example

New Jersey data analysis staff requested additional information on materials related to the Iowa Department of Education’s risk assessment template and analysis process. Representatives of the Iowa Department of Education had presented these materials at the National Perkins Reporting System’s 2017 Data Quality Institute. Resources referenced in footnotes were included in a ZIP file provided to NJDOE with this report.

- **Iowa’s monitoring rubric and site selection**
  - Districts provide a narrative response to the risk assessment rubric\(^1\)
  - Iowa Department of Education staff code and score responses according to the risk assessment rubric\(^2\)
  - Quantitative analysis\(^3\)
    - Frequencies, regression, Pearson correlation, \(\chi^2\), crosstabs, ANOVA

- **Reports** are organized according to the 10 sections of the desk audit questionnaire, with recommendations and citations issued by section.
  - Districts have 60 days to respond to these reports.
  - Recommendations could include on-site visits.

\(^1\)See “Monitoring Resources.zip”: IA_FY18 CTE Desk Audit and Monitoring Instrument.docx

\(^2\)See “Monitoring Resources.zip”: IA_Perkins Monitoring Secondary Desk Audit Tool.pdf

\(^3\)See “Monitoring Resources.zip”: Day 1 Breakout 1 pm McFadden Ubadigbo Presentation.pdf (starting at slide 10)
Research and TA Activities

For the 2019–20 TA to States project, the TA team completed the following activities to support NJDOE:

- Documentary research: Including a review of WBL definitions and data collection strategies outlined in 44 draft Perkins V State Plans, state CLNA guides, state guidance documents on CTE program monitoring, and national and state resources related to WBL definitions, data collection practices, and state longitudinal data systems.

- Interviews with representatives of the Iowa Department of Education, the Oregon Department of Education, the Arkansas Division of Career and Technical Education, and the Massachusetts Department of Education.