CTE | Career & Technical Education
RESEARCH NETWORK

Module 4: Using State Data to Partner With Researchers

Facilitator's Guide

Authors:
Marjorie Cohen
Steve Klein
Cherise Moore

Reviewers:
Pradeep Kotamraju
Linda Romano
Lyn Velle

December 2020

Contents

Overview

This module is part of a series of six practitioner training modules developed as part of the CTE Research Network Lead. The six modules are:

Module 1: Understanding CTE Data and Why It Matters

Module 2: Using Data and Research to Improve CTE Programs

Module 3: CTE Program Evaluation: Why It Matters to Practitioners

Module 4: Using State Data to Partner With Researchers

Module 5: Using Research to Design Your CTE Program for Equity

Module 6: How to Communicate About Your CTE Program Using Research

The work of the CTE Research Network Lead is supported by the Institute of Education Sciences at the U.S. Department of Education with funds provided under the *Carl D. Perkins Career and Technical Education Act* through Grant R305N180005 to the American Institutes for Research. The work of the Network member projects is supported by the Institute. The opinions expressed are those of the authors and do not represent the views of the Institute or the U.S. Department of Education.

Module Description

State career and technical education (CTE) administrators have an opportunity to partner with researchers to better understand CTE programming and practices across their states. By learning how to include CTE research-friendly data in the state's accountability and longitudinal data systems, state practitioners can work with researchers to answer important research questions that can help them improve the quality and quantity of CTE offerings.

Module Objectives

After viewing this module, practitioners will be able to:

- Learn why states should partner with researchers.
- Understand how to include CTE data in accountability systems and state longitudinal data systems.
- Learn how states can partner with researchers.
- Understand real-world examples to show how this partnership could work and why it would benefit states.
- Identify best practices in program evaluation.

Intended Audience

This training module is intended for local and state program administrators. It can be done individually using the facilitator's guide. Groups or teams also will benefit from this module being led by a facilitator using this guide.

Materials

The following materials are recommended for the training module and associated activities:

- Module 4 PowerPoint
- Chart paper
- Copies of Activities 1–3:
  - Activity 1: Opening Self-Reflection
  - Activity 2: Using State Data Systems
  - Activity 3: Closing Self-Reflection

Time Requirements

The total time required for this module is approximately 60 minutes. You may need to allot additional time for the activities depending on the audience's familiarity with the content.

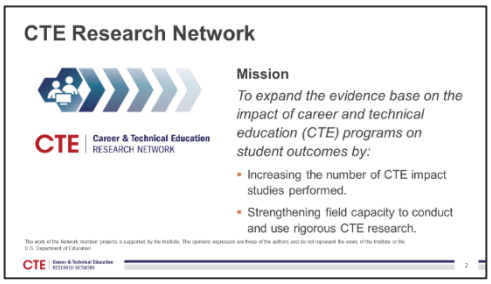
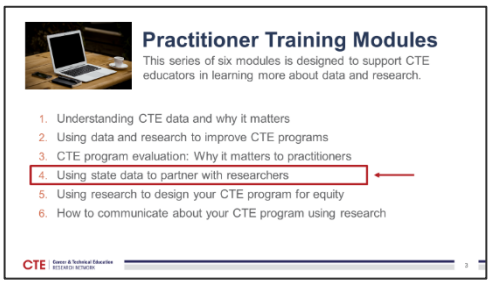
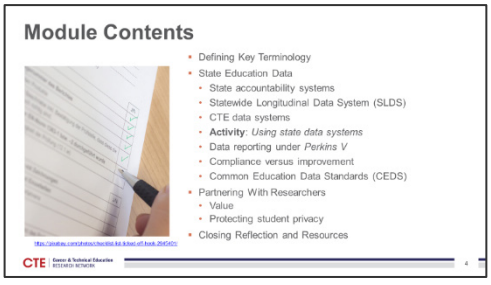
Outline of Module

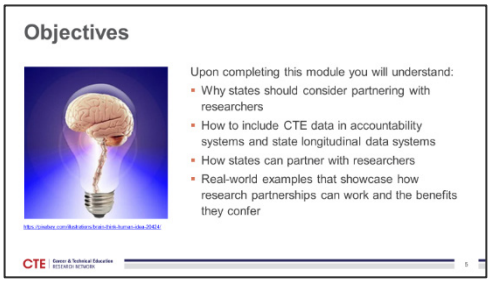
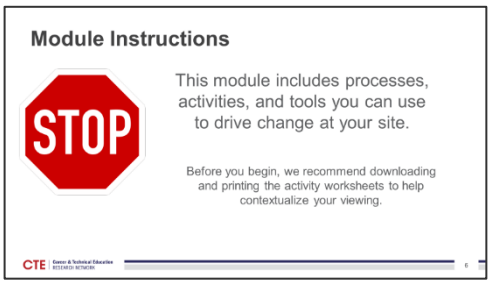
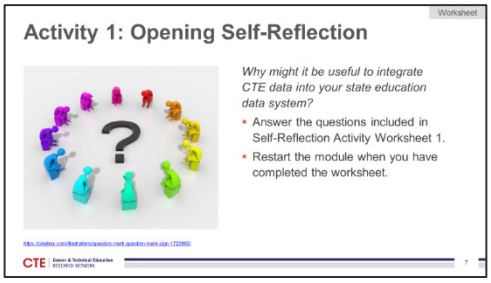
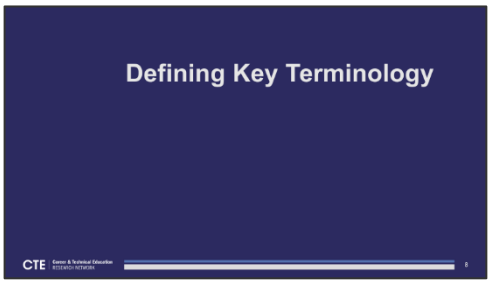
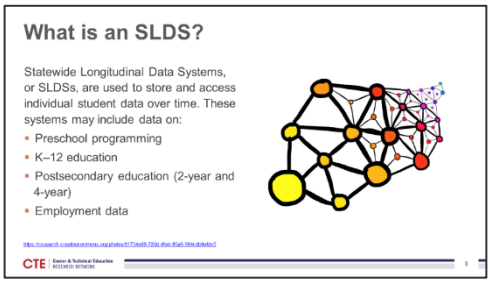
Materials	Activities	Estimated Time
Slide 1	None (cover slide)	As participants arrive (if in-person)
Slides 2–4	Welcome, Introductions, Agenda, and Overview	5 minutes
Slides 5–6	Objectives/Instructions	3 minutes
Slide 7; Activity 1	Opening Self-Reflection Activity	5 minutes
Slides 8–11	Defining Key Terminology	5 minutes
Slides 12–21; Activity 2	State Education Data ▪ State Accountability Systems ▪ Statewide Longitudinal Data System (SLDS) ▪ State CTE Data Systems ▪ How are SLDSs maintained? ▪ Example: Connecticut P20 WIN ▪ Activity 2: Using State Data Systems ▪ Data Reporting Under *Perkins V* ▪ How can CTE data be incorporated into state data systems?	20 minutes
Slides 22–28	Partnering With Researchers ▪ Benefits ▪ Finding Research Partners ▪ Real-World Partnerships ▪ Privacy Considerations	15 minutes
Slides 29–32; Activity 3	Closing Activity, Resources, and Contact Information	7 minutes
Total Time		**60 minutes**

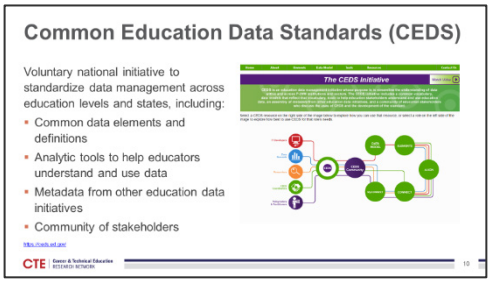
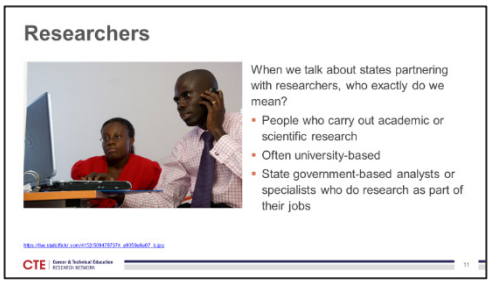
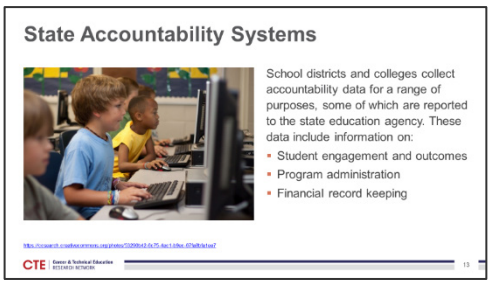
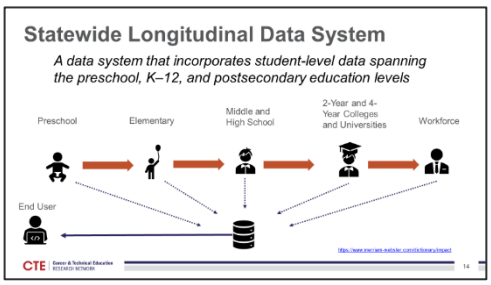
Facilitator's Script/Notes for Module

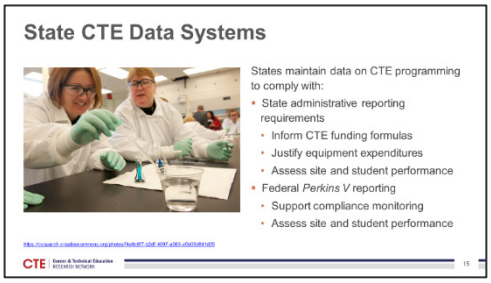
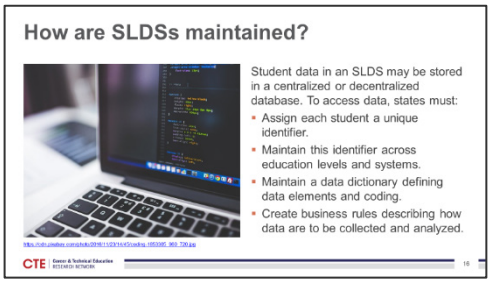
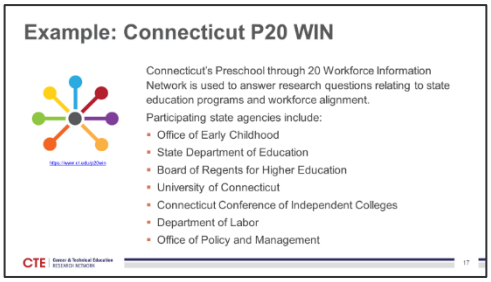
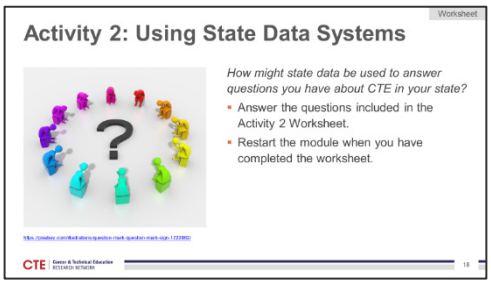
The following section is a slide-by-slide script that provides guidance to facilitators as they present the content and learning activities included in this module. Reviewing the entire guide prior to facilitating the module is highly recommended.

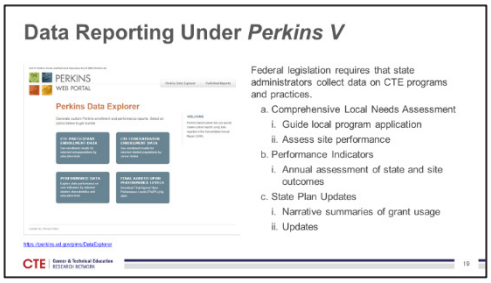
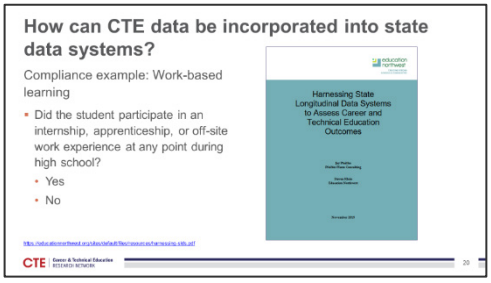
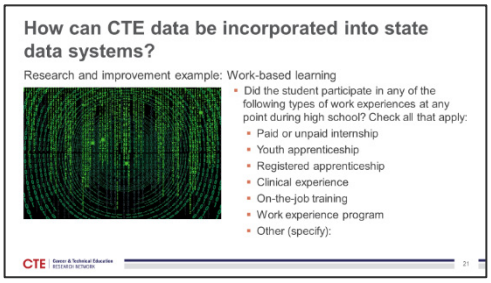
Module 4: Using State Data to Partner With Researchers

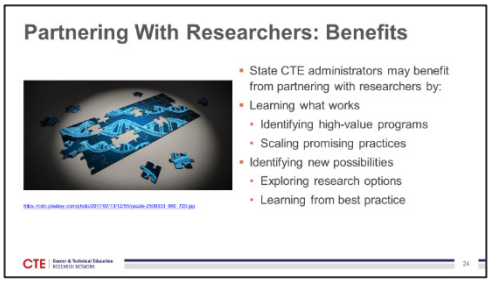
Script and Notes	Slide
Slide 1: Career and technical education (CTE) data can be used to tell the stories of success and impact for programs and students. This module is designed to share how accurate CTE data can be used by states to work with researchers to showcase state CTE outcomes and impacts on students. *NOTE: This slide is showing when participants arrive if done in-person.*	
Slide 2: The work of the CTE Research Network Lead is supported by the Institute of Education Sciences at the U.S. Department of Education with funds provided under the *Carl D. Perkins Career and Technical Education Act* through Grant R305N180005 to the American Institutes for Research. Network activities are directed toward increasing the number of CTE impact studies and strengthening the capacity of the field to conduct and use rigorous CTE research.	
Slide 3: The CTE Research Network has developed this series of practitioner training modules to support CTE stakeholders in learning more about how to use data and research to improve CTE programming. Although the modules need not be viewed sequentially, we suggest that you consider doing so if you plan to complete the entire series. This fourth module in the series is targeted toward state education agency administrators to support them in partnering with researchers to analyze statewide secondary and postsecondary CTE data.	
Slide 4: State-level CTE agency administrators have an opportunity to partner with education researchers to strengthen the quality and quantity of their CTE programming and practices. However, for these collaborations to prove useful, states must incorporate high-quality and longitudinal CTE data within their statewide accountability data systems. The module opens with a summary of how CTE data may be incorporated into state accountability systems to address both federal compliance reporting requirements and statewide program improvement needs. Useful resources, such as the Common Education Data Standards initiative, also are profiled. It then describes the value of collaboration between state education agency and institutional researchers as well as issues of student privacy that must be considered when structuring these relationships. Activities also are provided to help you think about evaluation needs in your state and how you can find researchers to address them.	

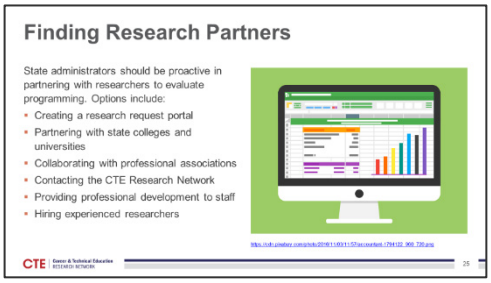
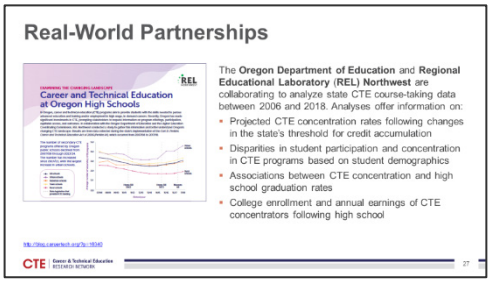
Script and Notes	Slide
Slide 5: Upon completion of this module, you will be able to describe why states should partner with researchers and understand how to include CTE data in your state's accountability systems and state longitudinal data systems. You also will be able to explain how states can partner with researchers and have a greater comprehension of real-world examples that showcase how partnerships can work and the benefits they confer.	
Slide 6: This interactive module is intended to provide you with resources to help you identify the CTE data available at your site. To help contextualize your experience, activities are provided to help you gain an understanding of how you may use the tools provided to implement change. Before you begin viewing, we recommend downloading and printing the activity worksheets so that you may use them to apply your learnings.	
Slide 7: To help frame your module engagement, this activity asks you to consider why it might be useful to integrate CTE data into your state education data system. Stop the module and follow the directions on Self-Reflection Activity 1 Worksheet. *NOTE: For facilitated in-person professional learning, this opening reflection question activity should be done as a 10-minute think-pair-share (i.e., 5-minute "think" and 5-minute "pair or group share").*	
Slide 8: This module introduces terminology commonly used by CTE researchers. It also builds on information contained in earlier modules. You may wish to consult the training series glossary that defines these terms to help inform your understanding of data and research.	
Slide 9: An increasing number of states have created or are in the process of developing Statewide Longitudinal Data Systems to organize and store public education data over time. These systems are designed to maintain historical student-level data that document students' experiences across grades and as they transition between education levels. For example, an SLDS may store information on a given student's preschool programming, individual grade-level data in K–12 education, and postsecondary experiences inclusive of 2-year and 4-year colleges and/or universities. Also, in some states, these education data may be linked to postprogram employment data. One obvious advantage that SLDSs confer is that they allow educators to assess the experiences and outcomes of students as they progress through the education system.	

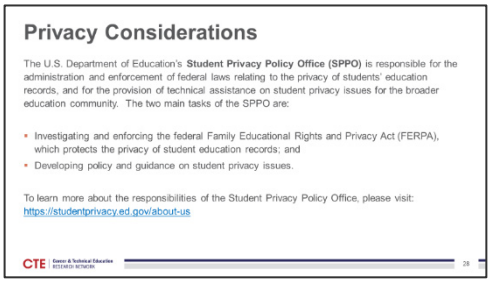
Script and Notes	Slide
Slide 10: The CEDS initiative is designed to standardize data management within and across the PK–20 education system. CEDS data managers have established a voluntary common vocabulary and criteria that states may use to promote the interoperability, portability, and comparability of data across states, districts, and higher education institutions. CEDS also includes analytic tools that can be used to help identify information needs to address research questions, metadata that describe other education data maintained by other data initiatives, and a community of education stakeholders who hold discussions and share information. CEDS partners include IT developers, data stewards, researchers, CEDS coordinators, and policymakers and practitioners.	
Slide 11: Who should states be partnering and sharing data with? Researchers are people who conduct research as a part of a grant or contract funded by the government, by private foundations, or for public research purposes. They can be based at a university, state government agency, or think tank. Researchers carry out academic or scientific research, the purpose of which is to provide solutions to specific problems.	
Slide 12: States collect data for a range of educational purposes. One pressing need is for accountability.	
Slide 13: To comply with federal and state compliance reporting requirements, school districts and colleges collect a great deal of data on students' educational engagement and outcomes, as well as a host of administrative data relating to site programming and finances. Much, though not all, of these data are shared with the state. In some instances, states maintain these district and college data in separate databases administered by different state agencies.	
Slide 14: A **Statewide Longitudinal Data System**, also referred to as an SLDS, incorporates student-level data spanning the K–12 and postsecondary education levels. In some instances, these databases also may supply information on students' preschool experiences and connect to state workforce data, such as employment and wages. These systems can be used to assess how learners move through the education-to-workforce pipeline. SLDSs are critical for assessing the benefits of CTE programming due to the length of time that may elapse from when a student begins CTE coursework in the middle grades or high school, enters postsecondary education or advanced training, and enters work.	

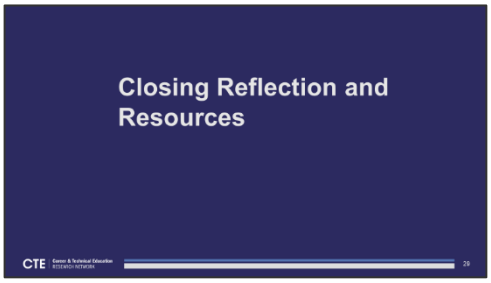
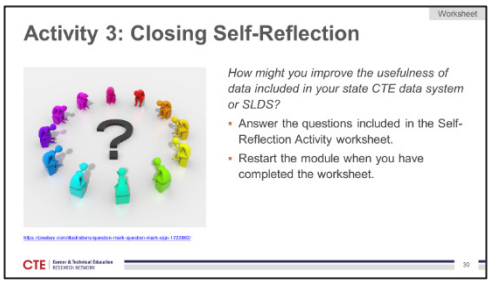
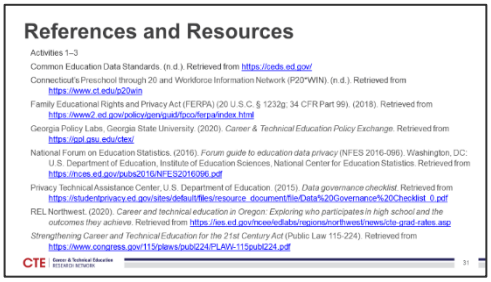
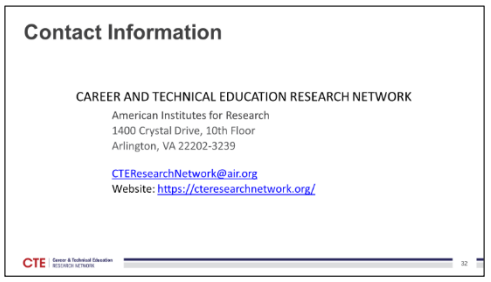
Script and Notes	Slide
Slide 15: CTE has a unique set of reporting requirements, due in part to the categorical state and/or federal funding used to support programs. For example, district or college administrators may need to collect and report data to their state's education agency administrators to inform the formula distribution of state CTE funding, justify equipment expenditures, and assess site and student performance. The federal *Strengthening Career and Technical Education for the 21st Century Act,* also known as *Perkins V,* earmarks funding for the support of state secondary and postsecondary CTE programming. To qualify for funding, state education agencies and local grantees are required to monitor their use of grant funds and report on the performance outcomes that students achieve. A detailed description of these performance reporting expectations is included in Module 3 of this training series.	
Slide 16: SLDS data may be stored in a centralized database maintained by a single state agency or in multiple databases maintained by different agencies. To link student data over time and across databases, states assign each student a unique identifier. This identifier is consistent over time and across education levels and systems. States also develop data dictionaries that define data elements and how they are coded. Finally, states create business rules that document how data are to be collected and analyzed.	
Slide 17: As an example of the benefits that an SLDS can offer, consider Connecticut's P20 WIN system, which links education and workforce data to help answer questions about state education programs and workforce alignment. Examples of research questions that can be answered include: Which indicators can be used to support students to be college and career ready? Which certificates and degrees are associated with employment and living wages in Connecticut? Connecticut state agencies participating in the state's P20 WIN system include six state education and workforce agencies along with the Office of Policy and Management.	
Slide 18: When integrated into a statewide education accountability system, CTE data can be used to answer pressing questions about programming offered in your state. The following activity will familiarize you with how statewide longitudinal data can be used to provide information about CTE services offered in your state. Stop the module here and follow the instructions contained in Activity 2. *NOTE: For facilitated in-person professional learning, this activity should be done as a 15-minute exercise, with individuals working in teams of two.*	

Script and Notes	Slide
Slide 19: The federal *Perkins V* legislation requires that states and/or local grant recipients report on an annual basis on their uses of federal funds, the outcomes they achieve, and their plans for how they will grant resources in the future. For example, local grant recipients are required to conduct an annual Comprehensive Local Needs Assessment to help guide development of their local program application based on an assessment of their site performance to identify needs. Local grantees and states also are required to report on a set of legislatively specified indicators and to disaggregate their performance based on student demographic characteristics. States also are required to submit annual plans that summarize their uses of federal resources and their updates for the coming year. Each of these reporting requirements entails the collection of CTE data at the student and/or program levels. In addition to serving federal compliance reporting, these data, if specified correctly, can be used to support local program improvement and third-party research and evaluation studies.	
Slide 20: There are many ways that data on CTE programming may be incorporated into state systems. Often, state administrators design data elements that are solely intended for compliance reporting purposes. Unfortunately, the level of detail needed to meet this threshold is quite low. For example, to meet the *Perkins V* reporting requirements pertaining to work-based learning, a state would simply need to collect data on whether a student participated in a work-based learning opportunity at some point during their high school CTE programming. A data element focused strictly on compliance could be structured as a yes/no option. Although this formulation would satisfy federal reporting requirements, it might not provide useful information for other purposes. For more information on issues associated with using longitudinal data, see the paper *Harnessing State Longitudinal Data Systems to Assess Career and Technical Education Outcomes,* which explores the different types of data that should be incorporated into state SLDSs and cautions associated with their use.	
Slide 21: If data are to support CTE teachers in improving instruction or researchers in studying programming, state CTE administrators may need to collect more nuanced information. For example, it would be more helpful if information were to be collected on the types of work-based learning in which students participated (e.g., career fair, job shadow, internship) and the outcomes of their experience (e.g., grades, attendance, time commitment, employer rating, number of hours worked). Although still allowing educators to respond for compliance purposes, this approach provides more detailed information that can support answering a more robust set of research questions. For example, it may be possible to determine whether one type of work-based learning experience offers relatively greater value. This also supports state flexibility in defining which types of work-based learning experiences are important for measuring.	

Script and Notes	Slide
Slide 22: State education administrators have competing demands on their time that may undermine their ability to use data. Moreover, as documented in this training series, conducting high-quality research and evaluation studies can be a complex process requiring specialized skills. Consequently, state administrators may wish to consider partnering with researchers to perform targeted studies of their CTE programming.	
Slide 23: State CTE administrators may benefit from partnering with researchers to analyze their statewide data systems. Well-formulated, evidence-based research can produce compelling information on the value of high-quality CTE programming by identifying strengths and weaknesses in programming and measuring the return on investment and other critical outcome data points. Collaboration with researchers can support administrators in designing rigorous research studies with targeted analyses that can establish an irrefutable cause-and-effect relationship between CTE and student outcomes. In addition to documenting the value of CTE, research results can be used to justify program support. Given limited state education funding, CTE administrators and educators can benefit if CTE research can convincingly demonstrate the benefits of targeted investment. Finally, because researchers are not personally invested in an intervention, partnering with a third party can provide an unbiased external viewpoint.	
Slide 24: A second benefit is programmatic. Well-designed research studies can produce information that can be used to drive program improvement. One obvious benefit is in learning what works. In designing rigorous studies that control for bias and external factors, researchers can help to identify high-value programs or elements within programs that contribute to student learning. This can be used to help isolate useful instructional approaches that can be scaled statewide. Researchers also can help administrators consider new opportunities. This can range from introducing new research options using existing data to identifying evidence-based practices currently in use in other states.	

Script and Notes	Slide
Slide 25: States should be proactive in partnering with education researchers to evaluate CTE programming. One approach used in some states is to create a research request portal to which interested education researchers may apply to request access to state data. Alternatively, state administrators might wish to build their own research alliances; for example, by partnering with a state college or university, collaborating with professional associations, or contacting the CTE Research Network. States also may wish to build their own internal capacity; for example, by providing professional development to staff or hiring experienced researchers for open positions. In doing so, care must be taken when opening data for external use. To ensure student privacy, states should consider instituting formal processes to vet these requests. This can include requiring a memorandum of understanding, or MOU, that stipulates the permitted uses of data and establishing internal review boards, or IRBs, to review and monitor research requests to protect the rights and welfare of human research subjects.	
Slide 26: The Career & Technical Education Policy Exchange (CTEx), based in Georgia Policy Labs, is a collaboration between Georgia State University and state education agencies in Massachusetts, Michigan, and Tennessee, and several key researchers to advance data-driven policy development. Researchers work side-by-side with state and local education partners to conduct studies designed to produce policy recommendations that ensure all students are prepared for both college and careers. CTEx researchers have conducted a range of CTE-focused studies focused on issues such as teacher effectiveness, college and work after high school for Tennessee CTE students, and CTE access and participation in Michigan. This innovative collaborative helps to develop policy-relevant research studies that address pressing state-identified CTE issues.	
Slide 27: The Oregon Department of Education and researchers at REL Northwest are collaborating to examine state data on state-level course offerings and student participation trends in CTE dating back to 2006 when the last reauthorization of the federal *Carl D. Perkins Career and Technical Education Act* occurred. Researchers are collaborating with state staff to assess how changes in the state's definition of a CTE concentrator might change given changes in the state's threshold for credit accumulation. Researchers also are exploring changes in CTE enrollments over time, disparities in student participation across student demographic groups, associations between CTE concentration and high school graduation rates, and college enrollment and annual earnings after high school.	

Script and Notes	Slide
Slide 28: Opening your state data systems to external researchers has the potential to strengthen your data analysis capacity. However, to ensure student privacy, state administrators must be aware of laws governing researchers' access to state data and take the necessary steps to protect students' personally identifiable information. Personally identifiable information contained in a student's education record may be used to directly or indirectly identify an individual student. Direct identifiers include data such as a student's name or social security number, and indirect identifiers that, though not solely connected to a student, may be used to trace an individual's identity through linkages with other information. ▪ The U.S. Department of Education's **Student Privacy Policy Office (SPPO)** is responsible for the administration and enforcement of federal laws relating to the privacy of students' education records and for the provision of technical assistance on student privacy issues for the broader education community. ▪ SPPO's student privacy functions are divided across two focus areas, providing guidance and best practices, and administering federal education privacy laws, including the Family Educational Rights and Privacy Act (20 U.S.C. § 1232g; 34 CFR Part 99), also known as FERPA. ▪ FERPA protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. The law specifies parents' and eligible students' rights regarding the disclosure of information contained within a child's education record. This includes rights related to the inspection and review of records maintained by the school, requests to correct records believed to be inaccurate or misleading, and the release of information contained in a student's record. ▪ FERPA regulations provide for the release of student education records under certain circumstances, including: ▪ School officials with a legitimate educational interest ▪ Other schools to which a student is transferring ▪ Specified officials for audit or evaluation purposes ▪ Appropriate parties in connection with financial aid to a student ▪ Organizations conducting certain studies for or on behalf of the school ▪ Accrediting organizations ▪ To comply with a judicial order or lawfully issued subpoena ▪ Appropriate officials in cases of health and safety emergencies ▪ State and local authorities, within a juvenile justice system, pursuant to state law	

Script and Notes	Slide
Slides 29–30: Closing slide and Activity 3 *Slide 29:* Congratulations on completing *Module 4: Using State Data to Partner With Researchers.* We hope that this module has helped to strengthen your understanding of state CTE data systems and offered ideas for how you might partner with researchers to evaluate your programs. *Slide 30*: As a closing activity, think about how you might apply the lessons learned in this module to improve the usefulness of data included in your state CTE data system. Stop the module and follow the directions on the Self-Reflection Activity 3' Worksheet. *NOTE: For facilitated in-person professional learning, this closing reflection question activity should be done as a 5-minute think-pair-share.*	 
Slides 31–32: References, Resources, and Contact Information Review resources and final slide with contact information. Thank participants for attending.	 

References and Resources

Activity Handouts 1–3

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