

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

Facilitator's Guide

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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

With research as a guide, you can design CTE programs that promote equity and help close the opportunity gap at your site. This module examines the student groups identified in the federal *Strengthening Career and Technical Education for the 21st Century Act*, better known as *Perkins V*; explains how to use data to ensure these students are served; and presents lessons learned and best practices for promoting equity in CTE and closing the opportunity gap. The module is designed to support school district and college CTE program administrators in using research to develop equitable CTE programs.

Module Objectives

After viewing this module, practitioners will be able to:

- Define Special Populations
- Identify underperforming student subgroups
- Explain the implications of a local equity gap analysis
- Understand and apply what the research says about equity in CTE
- Use the Perkins V data disaggregation requirement to improve equity outcomes
- Explain the difference between equitable access and equitable outcomes
- Determine best practices for closing the CTE opportunity gap and ensuring equity in their CTE programs

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 5 PowerPoint
- Chart paper
- Copies of Activities 1–4:
 - Activity 1: Opening Self-Reflection
 - Activity 2: Critical Student Subgroups
 - Activity 3: Research Perspectives
 - Activity 4: Beginning the Journey
- Module 5 Handout: Strategies to Promote Equitable Access and Improve Performance Outcomes of Special Population Students

Time Requirements

The total time required for this module is approximately 75 minutes. You may need to allot additional time for the activities depending on the audience’s familiarity with the content.

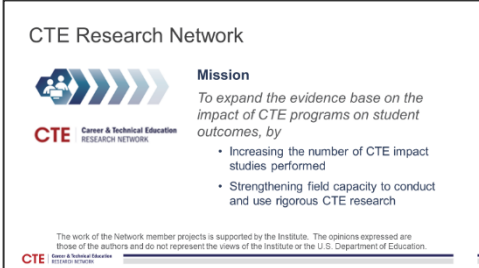
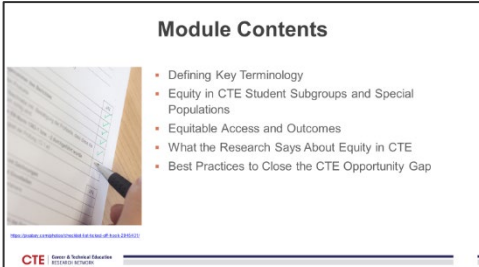
Outline of Module

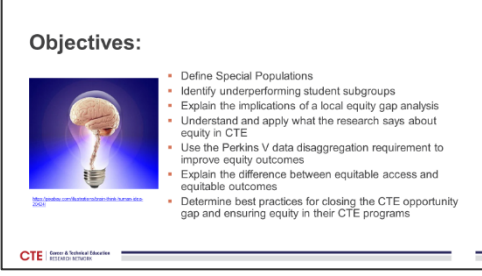
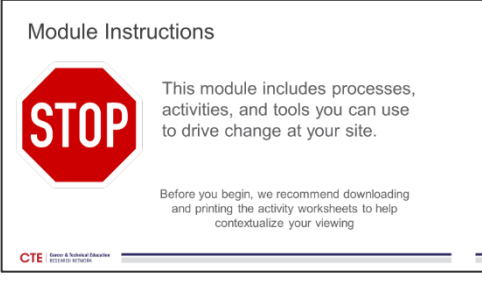
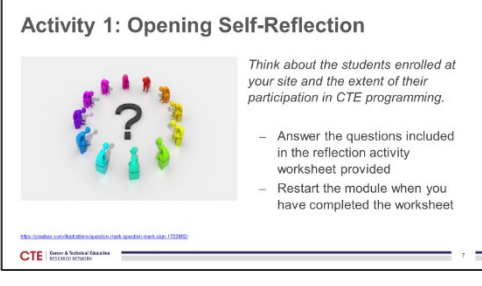

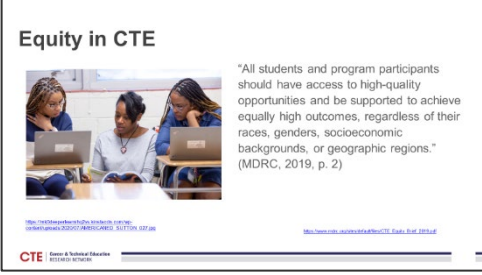
Materials	Activities	Estimated Time
Slide 1	None (cover slide)	As participants arrive (if in-person)
Slides 2–4	Welcome, Introductions, Agenda, and Overview	5 minutes
Slides 5–6	Objectives/Instructions	5 minutes
Slide 7; Activity 1	Opening Self-Reflection Activity	5 minutes
Slides 8–14	Defining Key Terminology	8 minutes
Slides 15–18	Equitable Access and Outcomes	7 minutes
Slides 19–29	Equity in CTE Student Subgroups and Special Populations	20 minutes
Slides 30–34; Activity 2	Critical Student Subgroups	10 minutes
Slides 35–41; Activity 3	Research Perspectives	10 minutes
Slides 42–43; Activity 4	Closing Reflection and Resources Beginning the Journey	5 minutes
Total Time		75 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 5: Using Research to Design Your CTE Program for Equity

Script and Notes	Slide
<p><i>Slide 1:</i> High-quality career and technical education, often referred to as CTE, can prepare students to succeed in postsecondary education and careers. This module is designed to support school district and college CTE program administrators in understanding CTE data and how best to use them.</p>	
<p><i>Slide 2:</i> The work of the CTE Research Network Lead is supported by the Institute of Education Sciences (IES) 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 (AIR). The work of the Network member projects is supported by the IES. The opinions expressed are those of the authors and do not represent the views of the IES or the U.S. Department of Education.</p>	
<p><i>Slide 3:</i> The CTE Research Network developed this series of practitioner training modules to support CTE stakeholders in learning about how to use data and research to improve CTE programming. Although the modules do not need to be viewed sequentially, we suggest that you consider doing so if you plan to complete the entire series. This fifth module in the series is directed toward using research to support the design of equitable CTE programs.</p>	
<p><i>Slide 4:</i> This module will help you learn about how you can use research to design CTE programs to promote equity. You will gain an understanding of the student groups identified in the federal <i>Strengthening Career and Technical Education for the 21st Century Act</i>, also known as <i>Perkins V</i>, and how to use data to ensure that these students are served. We will define the opportunity gap in the context of CTE and clarify the distinction between equitable access and equitable outcomes. Finally, we will examine lessons learned from the literature on equity in CTE and identify best practices for closing the opportunity gap in your site.</p> <p>Activities are provided throughout this module to help you think about how you might begin to close the opportunity gap at your site.</p>	

Script and Notes	Slide
<p><i>Slide 5:</i> After viewing this module, you will have a better understanding of how research can be used to improve equity in CTE programs. You also will learn about concepts of equity in <i>Perkins V</i> as they relate to special populations of students. You will be able to identify underperforming student subgroups and to explain the implications of a local equity gap analysis. Importantly, you will be positioned to understand and apply what the research says about equity in CTE.</p>	 <p>Objectives:</p> <ul style="list-style-type: none"> Define Special Populations Identify underperforming student subgroups Explain the implications of a local equity gap analysis Understand and apply what the research says about equity in CTE Use the Perkins V data disaggregation requirement to improve equity outcomes Explain the difference between equitable access and equitable outcomes Determine best practices for closing the CTE opportunity gap and ensuring equity in their CTE programs
<p><i>Slide 6:</i> This interactive module is intended to provide you with processes and tools to help you improve equity in career and technical education programming 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.</p> <p>Before you begin viewing the module, we recommend that you download and print the activity worksheets and active use them to apply your learnings.</p>	 <p>Module Instructions</p> <p>This module includes processes, activities, and tools you can use to drive change at your site.</p> <p>Before you begin, we recommend downloading and printing the activity worksheets to help contextualize your viewing</p>
<p><i>Slide 7:</i> (5 min) To help frame your module engagement, please think about the students enrolled at your site and the extent of their participation in CTE programming. Stop the module and follow the directions on the “Self-Reflection Activity” worksheet.</p> <p><i>Note: For asynchronous professional learning using the module, please download or print out the worksheets before you start the module. For facilitated in-person professional learning, this opening reflection question activity should be done as a 5-minute think-pair-share.</i></p>	 <p>Activity 1: Opening Self-Reflection</p> <p>Think about the students enrolled at your site and the extent of their participation in CTE programming.</p> <ul style="list-style-type: none"> Answer the questions included in the reflection activity worksheet provided Restart the module when you have completed the worksheet
<p><i>Slide 8:</i> To use research to design your CTE program for equity, it is important that you be aware of some key terminology. The next five slides review key terms used throughout this module. You may wish to download the module glossary that includes these terms and other terms related to using data and research to help inform your work.</p>	 <p>Defining Key Terminology</p>
<p><i>Slide 9:</i> Equity is defined in terms of both access and outcomes. Specifically, all students and program participants should have access to high-quality opportunities and be supported to achieve equally high outcomes, regardless of their races, genders, socioeconomic backgrounds, or geographic regions.</p>	 <p>Equity in CTE</p> <p>“All students and program participants should have access to high-quality opportunities and be supported to achieve equally high outcomes, regardless of their races, genders, socioeconomic backgrounds, or geographic regions.” (MDRC, 2019, p. 2)</p>

Script and Notes

Slide 10: States and local grantees are required to collect and report performance outcome data on different populations of students to assess the outcomes they achieve. One category of students is called CTE Concentrators. This encompasses students who have achieved a threshold level of coursework in a single CTE program or program of study.

Slide 11: Perkins V provides for additional services and support for special population students, which includes students who may face physical challenges or students who are at an economic disadvantage, students dealing with difficult personal or family situations, and students with diverse cultural and linguistic backgrounds. A full list of special population categories specific to Perkins V is provided later in the module.

Slide 12: CTE programs are intended to serve all students. However, in the workforce, some occupations or fields of work are dominated by either males or females. A nontraditional field is one in which individuals from one gender comprise less than 25% of the individuals employed in that occupation or field. For accountability purposes, states are required to collect data on CTE concentrators in CTE programs and programs of study that lead to employment in nontraditional fields.

Nontraditional careers refers to occupations or fields of work, including careers in computer science, technology, and other emerging high-skill occupations; in which individuals from one gender comprise less than 25% of the individuals employed in an occupation or field of work.

Slide 13: For students to take full advantage of CTE programs, states and districts must address racial, gender, and income inequities that may affect their participation and/or persistence in coursework. High-quality CTE programs are designed with equity in access and opportunity as a central goal.

For example, schools located in communities with higher socioeconomic status may have relatively more well-resourced CTE programs or be more likely to offer CTE programming in high-wage, high-demand fields. If so, this may lead to inequitable access to services, where some students are more likely to benefit from specific high-wage, high-demand programming than students in schools that primarily serve historically disadvantaged students. To address this inequity, states and/or districts may act to equalize student access to CTE by allocating resources relative to district and/or school need so that all students have equitable access to programs. In doing so, they help prepare students for the future, giving them greater flexibility to pursue career opportunities after high school.

Slide

CTE Concentrators

Students who achieve a threshold level of coursework in a single CTE program or program of study



- Secondary education
- Completed at least 2 courses
- Postsecondary education
- Earned at least 12 credits
- Complete a program of fewer than 12 credits or its equivalent

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Special Populations

Students from unique demographic groups that may require additional services or supports to succeed in an educational program.

- Physical challenges
- Economic disadvantages
- Personal or family situations
- Diverse cultural or linguistic backgrounds



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Nontraditional Fields



An occupation or field of work for which individuals from one gender comprise less than 25 percent of the individuals employed in that occupation or field.

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CTE Opportunity Gap



The opportunity gap refers to racial, gender, and income disparities and inequities in access to and participation in high-quality CTE programs.

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Script and Notes

Slide 14: CTE opportunity gaps may be due to a variety of causes. For example, if financial factors make it difficult to offer STEM programming in rural communities, then one might expect to see differences in student participation by urbanicity. This would be an example of an institutional bias reflective of systemic policies or practices that give urban and/or suburban students an advantage over others. Implicit bias refers to unconscious attitudes or stereotypes held by school administrators or teachers that may lead them to exhibit a preference or aversion to some groups of students, as might occur if instructors were to believe that males are more likely to succeed in automotive mechanics. Cultural competence refers to the extent to which differences in the appearance, behavior, or culture of some groups of students is acknowledged and/or accepted by educators.

Slide 15: Let us now clarify the difference between equitable access and equitable outcomes.

Slide 16: Equality is not the same as equity. This is because providing all students with equal access to a CTE lab does not mean that all students will have the same opportunity to learn. For example, a student who is an English learner may not benefit from participating in an automotive lab if the information is provided in a way that is not accessible to them. In this instance, equality would mean providing an English learner student with access to the lab in a way that allows them to benefit similarly to a student who is fluent in English. This could mean providing the student with accommodations, such as translated materials or individualized instruction, so that they would have the ability to participate in lab work in the same way as a student who is fluent in English.

Slide 17: Accordingly, equitable access involves providing all students, regardless of their special population status, with options and supports that allow them to participate in CTE programming. For example, CTE classrooms should be accessible to all students, irrespective of their special population status. This could mean making adjustments, such as providing wheelchair ramps, to ensure that students who are physically handicapped are not prevented from entering. Similar logic would apply these same principles to program recruitment and admission policies to ensure that they do not discriminate against students. For example, if recruitment efforts consist of posting flyers on bulletin boards or websites written only in English, then individuals with limited English skills may be unaware of the opportunity. Counseling practices also must be designed to ensure that all students are given equitable access to services. In addition, all students must have access to programs that prepare them for high-wage, high-skill, in-demand careers. This means that students should not be

Slide

Systemic and Societal Biases

- *Institutional bias*—systemic policies or practices within a school that give one group of students an unfair advantage over another
- *Implicit bias*—unconscious attitudes or stereotypes held by administrators or teachers that may lead to a preference or aversion to some groups of students
- *Cultural competence*—the extent to which differences in the appearance, behavior, or culture of some groups of students are acknowledged and/or accepted by educators



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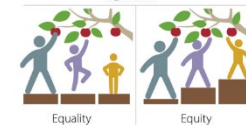
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Equitable Access and Outcomes

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What is Equity in CTE?

Equality \neq Equity



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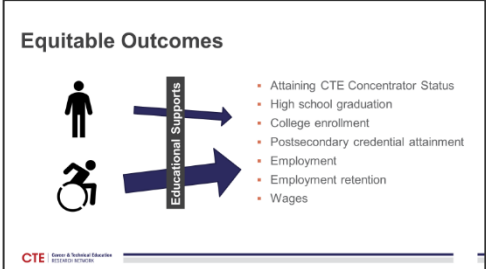
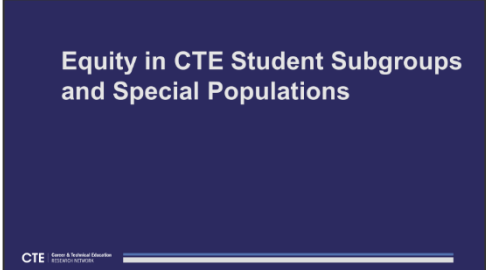
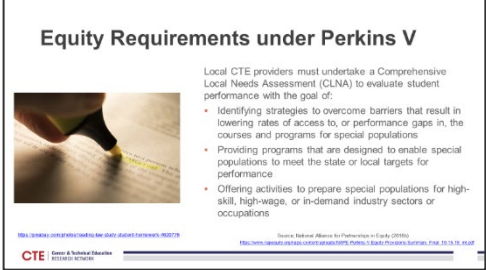
Equitable Access

- Access to a full range of high-quality CTE programs
- Admission, recruitment, and counseling practices do not discriminate
- Opportunity to acquire challenging academic and technical skills and experiences that prepare them for high-wage, high-demand jobs in their communities
- Culturally sensitive content
- Access to instructional supports, such as teachers, and opportunities to collaborate with peers
- Connections with employers including access to internships and apprenticeships



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Script and Notes	Slide
<p>sorted into different programs based on their gender, race/ethnicity, or special population status.</p>	
<p><i>Slide 18:</i> Equitable outcome means that students are offered the necessary supports to achieve a given outcome. Although this does not mean that all students will achieve at the same level, it does mean that students from some special populations may need additional accommodations in order to have the same opportunity for success. For example, a student with a physical disability may need additional supports in the form of time to complete assignments or teacher attention if they are to have the same opportunity to achieve an equitable outcome.</p>	 <p>Equitable Outcomes</p> <ul style="list-style-type: none"> • Attaining CTE Concentrator Status • High school graduation • College enrollment • Postsecondary credential attainment • Employment • Employment retention • Wages
<p><i>Slide 19:</i> In this section, you will gain an understanding of the subgroups and special populations identified within <i>Perkins V</i> and become familiar with sources to access national data on CTE students and the outcomes they achieve. As a reminder, you may download the module glossary that includes the list of special populations along with other terms used throughout the module.</p>	 <p>Equity in CTE Student Subgroups and Special Populations</p>
<p><i>Slide 20:</i> Equity is a cornerstone of the federal <i>Perkins V</i> legislation. The act requires that state and local CTE grant recipients take steps to reduce or eliminate equity gaps that exist across student subgroups, including gender and race/ethnicity, as well as for students who are members of special population groups.</p> <p>While the act includes numerous requirements to motivate improvement, perhaps one of the most compelling is the expectation that providers undertake a Comprehensive Local Needs Assessment, often referred to as a CLNA, every two years. The CLNA is developed by local program providers to determine the CTE services they should plan to offer.</p> <p>Among the activities in which CTE administrators must engage is an evaluation of the performance of the students on the federal accountability indicators. The goals of this evaluation are (1) identifying strategies to overcome barriers that result in lowering rates of access to, or performance gaps in, the courses and programs for special populations; (2) providing programs that are designed to enable special populations to meet the local levels of performance; and (3) offering activities to prepare special populations for high-skill, high-wage, or in-demand industry sectors or occupations in competitive, integrated settings that will lead to self-sufficiency” (NAPE, 2018b, p. 5).</p>	 <p>Equity Requirements under Perkins V</p> <p>Local CTE providers must undertake a Comprehensive Local Needs Assessment (CLNA) to evaluate student performance with the goal of:</p> <ul style="list-style-type: none"> • Identifying strategies to overcome barriers that result in lowering rates of access to, or performance gaps in, the courses and programs for special populations • Providing programs that are designed to enable special populations to meet the state or local targets for performance • Offering activities to prepare special populations for high-skill, high-wage, or in-demand industry sectors or occupations

Script and Notes

Slide 21: In conducting their CLNA, site administrators must assess student performance and participation on each of the core indicators identified in Perkins V. In addition to assessing the overall performance of CTE concentrators at their sites, educators also must disaggregate data by student subgroups and special populations. Group performance is then compared to statewide targets for all concentrators, including subgroups, and any performance gaps are recorded.

Educators are required to use this information to identify strategies that may be used to close any observed equity gaps and integrate these strategies into their local plan. Sites failing to make progress over time may be required to develop a performance improvement plan.

Slide 22: Perkins V requires states to track the performance of subgroups of students to enable educators to assess their relative performance. These include breakouts by gender, including males and females, and race/ethnicity. This latter category includes eight mutually exclusive subgroups.

Slide 23: Special populations defined within Perkins V are the same as those stipulated in previous legislation with the addition of three new categories: out-of-workforce individuals (formerly defined as displaced homemakers), youth with parents on active duty in the armed forces, and homeless individuals.

Slide 24: The state plan for CTE developed by the state education agency must specifically address the needs of special population students. This includes consideration of these students' needs in the development of a statewide strategic vision and goals, student recruitment activities, dissemination of information about CTE, ensuring equal access to programs and the professional development of staff, and students' attainment of each of the accountability performance targets stipulated in the legislation. *Perkins V state plan (Section 122)*

Local program providers also are required to consider the needs of special population students in drafting their local plans. These plans are informed by the insights gained in conducting their comprehensive local needs assessment. This includes considering how to ensure that special needs students have equal access to CTE programs, attainment of accountability performance targets, and preparation for high-skill, high-wage, in-demand jobs.

Both the state education agency and local providers also are required to consult with representatives of special population students as part of their plan development process.

Slide

Equity Requirements under Perkins V

Providers must assess student performance and participation on the core indicators identified in Perkins V.

- Sites must assess the performance for CTE concentrators, for disaggregated subgroups and special populations
- Performances must be compared to statewide targets for all concentrators, including subgroups.
- Educators are required to develop strategies to close any equity gaps observed
- Sites failing to make progress over time may be required to develop a performance improvement plan



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Who is Measured?

Student Subgroups

- Gender
 - Male
 - Female
- Race-ethnicity
 - American Indian or Alaskan Native
 - Asian
 - Black or African American
 - Hispanic or Latino
 - Native Hawaiian or Pacific Islander
 - White
 - Two or more races
 - Unknown



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Who are Special Populations under Perkins V?

- Individuals with disabilities
- Individuals from economically disadvantaged families, including low-income youth and adults
- Individuals preparing for non-traditional fields
- Single parents, including single pregnant women
- **Out-of-workforce individuals**
- English learners
- Youth who are in, or have aged out of, the foster care system
- **Youth with parents on active duty in the armed forces**
- **Homeless individuals**

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Role of Special Populations in the State Plan and the CLNA

- State plans must address special populations needs as part of its:
 - Strategic vision and goals development
 - Information dissemination about CTE
 - Efforts to ensure equal access to programs
 - Professional development of staff
 - Attainment of accountability performance targets
- Providers' CLNA must address special populations needs related to:
 - Ensuring equal access to programs
 - Attainment of accountability performance targets
 - Preparation for high-skill, high-wage, in-demand jobs

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Script and Notes

Slide 25: The act also provides for a number of other supports to strengthen its equity focus. This includes a set of required and permissible options for the use of state leadership funds to support the recruitment and retention of special population students into CTE programming.

Required uses of state leadership funds include providing services to prepare students for nontraditional fields and expose them to high-skill, high-wage, in-demand work. Permissible uses of such funds include the provision of professional development to staff on how to provide appropriate accommodations for students who are members of special populations to help eliminate inequities in student access to high-quality programs of study.

States also have the option of awarding incentive grants to local providers who exhibit progress in closing achievement gaps among subpopulations who participate in CTE.

Slide 26: Programs may consider leveraging data from resources like the National Center for Education Statistics (NCES) to assess how their students are doing in comparison to students at the national level. This may reveal gaps in performance and participation. The NCES collects a great deal of data on the status of CTE enrollment among public school students in Grades 9–12 as well as teachers and schools, with breakouts by student group and special population status. Drawn from national surveys and studies, these data and statistics are posted on the agency’s website and may be accessed in the form of tables, publications, and findings. Links to data sources used to produce these data and reports are provided.

Slide 27: As an example of the data that are available on the NCES website, statistics are presented on the characteristics of CTE concentrators compared with all public high school students. Data indicate that roughly 20% of 2013 high school graduates completed a three-credit concentration in a single CTE program area. Among these students, Whites and males were somewhat more likely to achieve this status than other students. For example, 22.8% of males were CTE concentrators compared with 16.7% of females. Students facing education challenges, including students with an individualized learning plan in ninth grade or students who speak a first language other than English were relatively less likely to be concentrators.

Slide 28: The National Center for Education Statistics also has a great deal of data on postsecondary students that can be used to obtain a CTE student profile. As with secondary student data, these data may be accessed via tables, publications, and key findings. Data sources used to compile these statistics also are presented.

Slide

Special Populations CTE Recruitment

Critical questions to consider:

- Does your professional development to staff include accommodations for students who are members of special populations?
- How are you supporting eliminating inequities in student access to high-quality programs of study and effective CTE instructors?
- How are you leveraging CTSOs to expand participation?
- How are you using incentive grants to local providers making progress in closing achievement gaps among subpopulations who participate in CTE?

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National CTE Student Profile Data: Secondary

Status of CTE among grade 9-12 public school students, teachers, and schools

- **Tables** Statistics on secondary/high school CTE, organized by topic.
- **Publications** List of NCES reports on secondary/high school CTE topics.
- **Findings** Summary of key findings from publications on secondary/high school CTE, with graphics, organized by topic.
- **Data Sources** List of data collections used to produce secondary/high school CTE tables and publications, with links to sites for accessing the data.

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Secondary Example: CTE Concentrators

Roughly 20 percent of high school graduates completed a 3-credit concentration in a CTE program in 2013. Results indicate that:

- White students and males were somewhat more likely to concentrate in CTE than students in other groups
- Students with an Individualized Learning Plan in 9th grade or speaking a first language other than English were relatively less likely to concentrate in CTE

Student characteristic	Concentrator
Total, all graduates	15.7
Race/ethnicity	
White	22.0
Black	16.2
Hispanic	16.4
Asian/Pacific Islander	12.1
Sex	
Male	22.8
Female	16.7
IEP in grade 9	
Yes	24.8
No	17.4
English is first language	
Yes	20.7
No	14.9

Source: National Center for Education Statistics, <http://nces.ed.gov/ipeds/data/ipeds2013.asp>, updated August 20, 2013

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National CTE Student Profile Data: Postsecondary

Institutions that offer and students who take subbaccalaureate occupational education

- **Tables** Statistics on postsecondary/college CTE, organized by topic.
- **Publications** List of NCES reports on postsecondary/college CTE topics.
- **Findings** Summary of key findings from publications on postsecondary/college CTE, with graphics, organized by topic.
- **Data Sources** List of data collections used to produce postsecondary/college CTE tables and publications, with links to sites for accessing the data.

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Script and Notes

Slides 29: As an illustration of the type of postsecondary student profile statistics available, data from the 2011–12 National Postsecondary Student Aid Study published by IES indicate that student enrollment in occupational and academic programs differ by students' race/ethnicity. Specifically, the percentage of Black students is larger in subbaccalaureate occupational programs than in subbaccalaureate academic programs or bachelor's degree programs. Although the percentage of Hispanic students is larger in subbaccalaureate occupational programs than in bachelor's degree programs, the percentage is relatively similar compared with the percentage of Hispanic students in subbaccalaureate academic programs.

Slides 30: What are the critical student subgroups in your program?

Please gather the student profile reports you developed as part of your CLNA work. We will use these data in this activity to identify students from special population groups who achieve concentrator status and compare these results to the general population of students.

After you have completed the worksheet, you can return to this module and continue your learning.

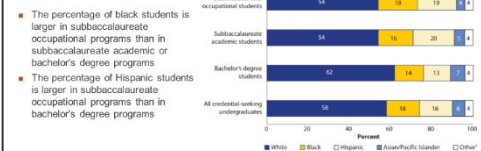
Slides 31: In this section, we will review what the research says about equity in CTE and consider how you might use this information to conduct a gap analysis.

Slides 32: Using data on three cohorts of students in Arkansas, Dougherty and Zeehandelaar in 2017 found that those who enrolled in ninth grade between 2008 and 2010 and who attained concentrator status in a single CTE program of study were more likely to graduate from high school, enroll in a 2-year college, be employed, and earn higher wages than their peers. They were also just as likely to pursue a 4-year degree. Although these positive results are promising, perhaps equally important was the results suggesting that students from low-income families received the greatest benefit. Specifically, lower income concentrators were 25 percentage points more likely to graduate than similar lower income non-concentrators.

Although the study's authors did not seek to assess specific components of CTE, they recommended that state policy makers and education leaders examine labor market projections to identify high-growth industries in which programming should be offered; ensure coursework is aligned to industry-recognized skills and credentials; encourage students to take multiple CTE courses in a single field; and support dual enrollment by making credits "stackable" from high school into college.

Slide

Postsecondary Example: Employment Rates



Source: National Center for Education Statistics, <https://nces.ed/ipeds/datacenter/ipedsdatacenter.aspx>, accessed August 24, 2020.

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Activity 2: Critical Student Subgroups



Review your student profile reports.

- Answer the questions included in the reflection activity worksheet provided
- Restart the module when you have completed the worksheet

<https://ctelibrary.com/relatedfiles/activities/critical-student-subgroups-172090/>

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What the Research Says About Equity In CTE

CTE | Center for Technical Education | 2017-2018 | 31

Highlights from Recent Research Related to Equity in CTE



“Arkansas students with greater exposure to CTE were more likely to graduate, enroll in a two-year college, be employed, and have higher wages”

“Results suggest that CTE provides the greatest boost to the kids who may need it most—students from low-income families.”

– Dougherty & Zeehandelaar (2017)

<https://nces.ed/ipeds/datacenter/ipedsdatacenter.aspx>

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Script and Notes

Slides 33: In a 2019 study of the effect of high school industry credentials on the educational and labor market outcomes of students in three states, Walsh and colleagues found that earning a credential was associated with an increase in the probability of graduating, and that this effect was stronger for female CTE students than for male CTE students. Results for postsecondary enrollment were less promising for low-income students. Those earning a credential were somewhat less likely to graduate high school on time, enroll in community college, and complete community college after enrolling. These results, while unexpected, may be associated with the type of credential earned, be it in the specific field or the cost associated with taking the exam, which some lower income students may be unable to afford. This suggests the need for continued research in the field to fully explore these equity considerations.

Slides 34: In a scan of notable community college CTE programs offered nationwide, MDRC's Center for Effective CTE noted a number of promising practices to promote equity. For example, it was found that colleges were able to propose a more equitable and diverse enrollment in CTE programs by adjusting their outreach and finding creative recruitment strategies. Targeted and individualized coaching, support networks, and nontuition financial support also proved to be promising practices in retaining diverse students and, in so doing, helped to reduce equity gaps.

Slides 35: Activity: Add your perspective to the research. After reading the article found here: <https://caldercenter.org/publications/building-bridges-life-after-high-school-contemporary-career-academies-and-student> (specifically Sections I, VI, VIII and Tables 1,2, 7, 8, 9, and 10), please answer the questions included on the research perspectives activity worksheet.

Then answer this question: How can what you experience in the field help expand the knowledge base of researchers?

After you have completed the worksheet, you can return to this module and continue your learning.

Slides 36: And finally, let's put together the equity issues we've identified and the strategies we've learned to start thinking about how to begin to close the CTE opportunity gaps we are facing.

Slide

Highlights from Recent Research Related to Equity in CTE



- "Earning a credential is associated with an increase in the probability of graduating from high school on time in Florida, Indiana, and Kentucky. This effect is stronger for female CTE students as compared to male CTE students."
- "The positive effects of earning a credential on postsecondary outcomes were stronger for students who were not low-income. A possible explanation is that low-income and non-low-income students are earning different credentials."

- Walsh, O'Kane, Noronha, & Taska (2019), p. 5
<https://www.mdrccenter.org/publications/building-bridges-life-after-high-school.pdf>

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Highlights from Recent Research Related to Equity in CTE



- "Colleges may be able to promote equitable and diverse enrollment in CTE programs by adjusting their outreach and finding creative recruitment strategies, including the use of peer recruiters and community partners."
- "Targeted and individually tailored coaching, support networks, and nontuition financial support may help students stay in and complete programs, reducing equity gaps."

Sherrill Roberts & Tucker (2020), p. 1
<https://www.mdrccenter.org/publications/building-bridges-life-after-high-school.pdf>

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Activity 3: Research Perspectives



Read the article:

Building Bridges to Life after High School: Contemporary Career Academies and Student Outcomes.

- Answer the questions included in the activity worksheet provided
- Restart the module when you have completed the worksheet

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Best Practices to Close the CTE Opportunity Gap

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Script and Notes

Slides 37: Students may choose to enroll or persist in CTE programs for a variety of reasons, some due to personal preference. For example, not all students may be interested in the CTE programming offered in their school, which may lead them to choose other electives. However, equity issues may arise when students' decision to participate is due to factors outside their control. When addressing equity gaps, consider how systemic or societal factors may affect students' ability to participate in CTE. Some issues for consideration include:

Institutional bias—systemic policies or practices within a school that give one group of students an advantage over another

Implicit bias—unconscious attitudes or stereotypes held by administrators or teachers that may lead to a preference or aversion to some groups of students

Cultural competence—the extent to which differences in the appearance, behavior, or culture of some groups of students are acknowledged and/or accepted by educators

Once you have distinguished the factors that may cause opportunity gaps, it is time to act. The following slides offer some best practices you may adopt to address inequities.

Slides 38: Think about whom you are engaging—local CTE and education and workforce pipeline stakeholders? Teachers, counselors, advisors? Career center and community college staff? (Williams, 2016, p.21)

Think about how you are engaging: what language are you speaking and what languages are stakeholders speaking? Are you scheduling meetings when some stakeholders are unable to attend? Are you issuing media some stakeholders cannot use? Also think about whom stakeholders trust (e.g., school counselors, teachers, and CTE students) and enlist them as champions (Estes & McCain, 2019, p. 13).

Consider the following (Advance CTE, 2019a, p. 1):

1. Acknowledge that inequity is a problem.
2. Promote a culture that values equity and diversity within the state agency and instructor workforce.
3. Commit to transparency and advancing only high-quality CTE programs of study,
4. Implement strategies to gain buy-in from communities and stakeholders.
5. Celebrate, lift up, and replicate successful programs of study and practices."

Slide

Why the Opportunity Gaps Exist

Beware of systemic or societal biases that may affect students' ability to participate in CTE. Potential factors may include:



- *Institutional bias*—systemic policies or practices within a school that give one group of students an advantage over another
- *Implicit bias*—unconscious attitudes or stereotypes held by individuals or teachers that may lead to a preference or aversion to some groups of students
- *Cultural competence*—the extent to which differences in the appearance, behavior, or culture of some groups of students are acknowledged and/or accepted by educators.

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Best Practices to Address Inequities

Engage stakeholders by...

- Setting up a diverse cross-functional team
 - School leadership and staff
 - CTE community members
- Building trust with students and families
 - Take steps to minimize language barriers with families
- Align your feedback timeframe and delivery methods with stakeholders' diverse needs

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Script and Notes

Slides 39: State leaders have been working “to close access gaps by:

- Securing equitable resources;
- Expanding geographic access to CTE opportunities; and
- Addressing barriers to entry into CTE programs of study” (Advance CTE, 2019b, p. 2).

Examples include targeting funding to communities most in need, providing accommodations for students with disabilities, providing transportation, and examining who is disproportionately impacted by entrance requirements (Advance CTE, 2019b).

Slides 40: Once you have identified inequities using data disaggregation and selected root causes to focus on, you may want to consult this resource, produced by the National Alliance for Partnerships in Equity Education Foundation to help select strategies. As a reminder, you learned about root cause analysis in module 2, which can help you identify the underlying factors that contribute to inequitable student outcomes. The publication, *Strategies for Special Population Success* (Lufkin, 2020) provides a wealth of ideas for how you might act to strengthen student outcomes.

We recommend pausing the module and examining *the Strategies to Promote Equitable Access and Improve Performance Outcomes of Special Population Students* Resource Sheet to see a range of practical approaches you might consider adopting at your site. Download the full document using the link in the references section for the full list of strategies.

Slides 41: Equitable access is important but only if it provides students with options to participate in high-quality programming. Ultimately, you need to set and hold all programs to high standards that are aligned to priority industry needs and up-to-date practices and techniques; taught by experienced, well-trained educators; and offer students options for applying learning in real-world settings with the potential to earn postsecondary credits or industry credentials. Equally important is the need to identify and remove barriers to student participation, which may include a host of geographic, programmatic, or student demographic characteristics (Estes & McCain, 2019, p. 13).

And in doing so, be persistent in your undertaking. Changing institutional culture and individual beliefs is a challenging, long-term process, and one that cannot be accomplished with quick fixes or one-off trainings. Seek to weave equity throughout all aspects of your CTE program and be prepared to maintain your efforts over time. Achieving equity is not a sprint but a marathon. Delivering equitable, high-quality CTE programs requires thoughtful planning and sustained, strategic action. The resources and activities contained within this module can help you to better understand the causes of inequity and provide you with the tools to help eliminate it.

Slide

Best Practices to Address Inequities

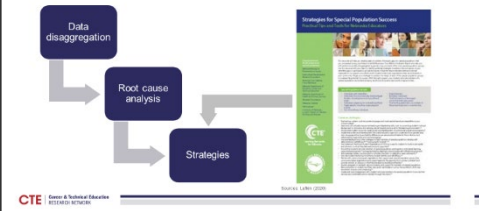
Remove barriers to equitable access to CTE and support students accordingly.

- “Geography and availability of high-quality CTE programs in their school or institution of record
- Funding and resources
- At-home factors (parent involvement, income, trauma, childcare needs, health needs)
- Academic preparation
- Awareness/advising
- Cultural awareness
- Physical and learning disabilities”
- Advance CTE (2019b), p. 1

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Planning and Strategies to Address Inequities



Delivering Equitable, High-Quality Programs

Ensure equitable access to high-quality CTE

- Set high standards for excellence and quality
 - Align to priority industry sectors
 - Deliver up-to-date skills
 - Employ experienced, trained instructors
 - Apply learning in real-world settings
 - Offer postsecondary credits and industry credentials
- Identify and remove barriers to student success
 - Geographic
 - Programmatic
 - Demographic

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Script and Notes	Slide
<p><i>Slides 42:</i> Congratulations on completing Model 5: Using Research to Design Your CTE Program for Equity. We hope that this module has helped to strengthen your understanding of equity in CTE and how to include an equity lens in your program.</p>	
<p><i>Slides 43:</i> To help close out your module engagement, please consider how you might use the information contained in this module to identify three strategies that you can apply from the research on equity in CTE to improve access, opportunity, and outcomes for your nontraditional special population students at your site. Stop the module and follow the directions on the “Beginning the Journey” worksheet.</p> <p><i>For asynchronous professional learning using the module, please download or print out worksheets ahead of starting the module. For facilitated in-person professional learning, this closing reflection question activity should be done as a 5-minute think-pair-share.</i></p>	
<p><i>Slides 44:</i> No Notes</p>	
<p><i>Slides 45:</i> No Notes</p>	
<p><i>Slides 46:</i> No Notes</p>	

Script and Notes	Slide
<p>Slides 47: No Notes</p>	<p>Contact Information</p> <p>CAREER AND TECHNICAL EDUCATION RESEARCH NETWORK CTEResearchNetwork@air.org Website: https://ctereseearchnetwork.org/</p> <p><small>CTE Career & Technical Education RESEARCH NETWORK</small></p>

References and Resources

Activity Handouts 1–4

Module 5 Handout: Strategies to Promote Equitable Access and Improve Performance Outcomes of Special Population Students

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