LEVERAGING CAREER DEVELOPMENT SERVICES

to Expand Student Engagement in Career and Technical Education

Students participating in CTE programming need career guidance and equitable supports to make informed career choices.

The *ACTE Quality CTE Program of Study Framework™* offers educators an evidence-based blueprint for evaluating career and technical education (CTE) programs of study and targeting areas for improvement. Detailing 12 elements integral to high-quality CTE programming, educators can use the Framework and accompanying self-assessment resources to evaluate and improve their programs and strengthen student experiences.

This whitepaper highlights innovative practices—aligned to the ACTE Framework—that CTE educators nationwide are using to improve middle and high school students' career knowledge and promote access and equity in CTE. It addresses three root causes of inequity connected to career development: (1) youth and families' misunderstanding of the benefits of CTE; (2) systemic barriers to student participation and persistence; and (3) a lack of career knowledge and planning information to motivate student engagement.

Why Career Development Matters

Career development and access and equity are among the most critical elements for your attention as a CTE educator. Career development services typically begin in the elementary grades with broad career awareness that extends to more focused career exploration in the middle grades. High school presents students with targeted information on career options and employment projections, reinforced with postsecondary placement and job search assistance.

Well-designed career development services expand students' and families' understanding of the educational and economic benefits that CTE confers. Eliminating unintentional barriers and sources of bias can simultaneously increase student engagement and shrink CTE participation and persistence gaps among student groups. And putting information into students' hands—including information on career options, labor market openings and firsthand learning from workplace experiences—can motivate enrollment in CTE programming. Given its labor force ramifications, all students should have options to participate in CTE regardless of their gender, race/ethnicity or special population status. Once enrolled, students should be provided services and supports that are free from bias, inclusive and non-discriminatory to encourage them to persist. To achieve this goal, equity considerations should be intentionally integrated into CTE career development to ensure all youth feel welcome and supported.

Equality vs. Equity

Equality is when services and supports are evenly distributed regardless of students' needs.

Equity entails customizing services and supports to uniquely address students' needs, which may require additional resources.

Taking Stock: How is Your Site Performing?

School districts collect a great deal of data on CTE students to comply with accountability requirements mandated in the Carl D. Perkins Career and Technical Education Act as amended by the Strengthening Career and Technical Education for the 21st Century Act, also known as Perkins V. Reporting focuses on the educational outcomes of CTE concentrators—those completing a sequence of two or more technical courses. Legislatively specified metrics at the secondary level encompass high school graduation, academic attainment, concentration in CTE programs that are nontraditional for a student's gender, and postsecondary matriculation and/or workforce placement.

This attention to outcomes directs attention toward students who have already committed to CTE, overlooking those who do not engage. Offering informed and equitable career development services begins with determining whether CTE participation and persistence is an issue at your school, district or area technical center and, if so, which students are affected. Consider integrating your findings from this exploration into your bi-annual comprehensive local needs assessment, which is required under Perkins V.

Data-driven Decision Making: *Who engages in CTE programming?*

Work with district administrators, teachers and counselors to review your CTE enrollment data. Questions to ask include:

- What proportion of my students participate and persist in CTE coursework?
- Do rates vary by student group (i.e., gender, race/ethnicity, special population status as defined in Perkins V) and, if so, are rates representative of the relative proportion of students enrolled?
- In which CTE programs do my students participate and persist, and are these rates in line with other student groups?

The Oregon Department of Education created the CTE Participation Explorer website for CTE educators. The interactive site enables users to select a graduating cohort and district, view student participation and persistence, and conduct an equity analysis to compare rates across student groups.

Figure 1: Cohort participation rate in CTE Learning Areas by gender

https://public.tableau.com/views/OregonCTEParticipationExplorer/Overview?:showVizHome=no
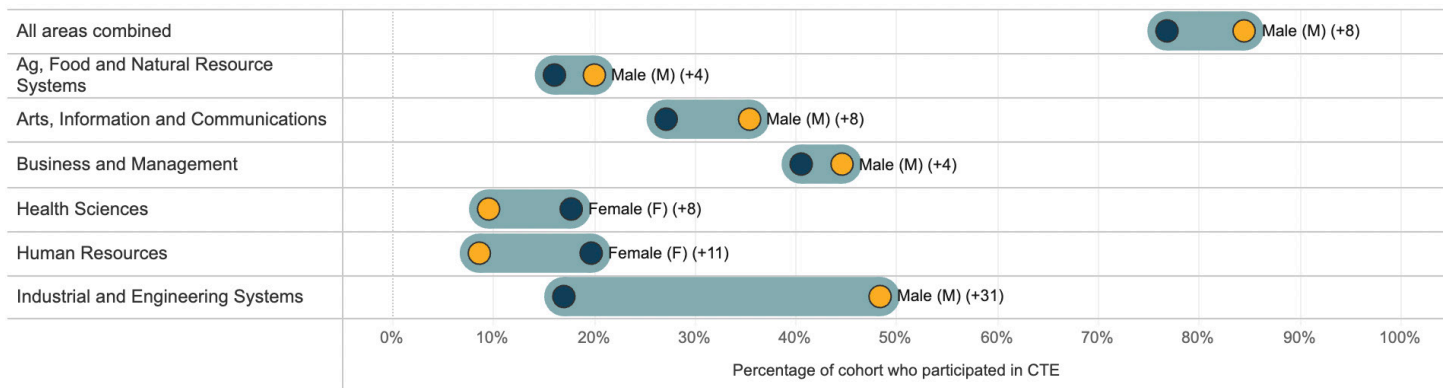
Evidence-informed Solutions: *What causes gaps among student groups?*

Root cause analysis can help you make sense of observed student behaviors. Root causes are the driving factors that underlie a problem. If the root causes are addressed, the situation should improve. Conducting a root cause analysis entails the following:

- *Brainstorming possible root causes* —identifying the systemic, institutional, societal or personal barriers that may keep students from accessing CTE programming or achieving success.
- *Classifying primary factors* — differentiating root from causal factors that are secondary drivers of student behavior.
- *Prioritizing root causes* — selecting prevailing factors that you are able to influence.
- *Implementing evidence-based strategies* — researching and introducing field-tested interventions to address selected root causes.

Keep in mind that schools are complex systems that are affected by federal and state policies, societal and cultural norms and family dynamics, among others. This means you may need to address multiple root causes simultaneously to resolve your identified challenge.

## Making Change: Using Career Development to Expand Student Engagement in CTE

Every school district faces a unique set of circumstances that are dictated by local conditions. Since no one solution will work in all locations, you will want to conduct your own investigation to find workable strategies for the root causes you identify. What follows are examples of practical, innovative and actionable career development practices that CTE educators nationwide are using to address commonly identified root causes of inequitable student access.

ROOT CAUSE:

*Youth and families do not understand what CTE is or the benefits it confers*

Youth should be familiarized to the world of work beginning in elementary school, with concepts reinforced and extended in the middle grades. Entering high school students should be introduced to their CTE options to help them select an area of specialization. Demystifying CTE programming requires offering comprehensive and sustained career development services at all education levels.

Noteworthy resources
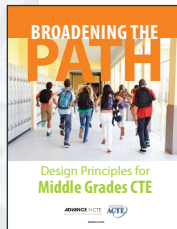
Broadening the Path: Design Principles of Middle Grades CTE
Advance CTE and ACTE have collaborated to develop a roadmap for introducing CTE in the middle grades. Use this resource to identify desired outcomes for student learning, foundational design principles for programs and policy, and core programmatic elements aligned to these principles. An excellent resource to assist you in selecting and coordinating improvement strategies.
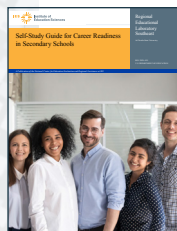
Self-study Guide for Career Readiness in Secondary Schools
High school students benefit when they are prepared for careers and college. This self-study guide from Regional Educational Laboratory Southeast highlights four areas of implementation profiled in the literature: preparing career-ready students, teaching and advising, counseling and building school and career networks. Use this resource to evaluate your site's existing strengths and identify areas for improvement.

Innovative practices

ISSUE: *Youth do not connect what they like to do with work*
**SOLUTION: *Have students take a self-interest/aptitude assessment***
The O*NET Interest profiler enables youth to explore career options by answering questions about what they like to do. Results from this online self-assessment link students' interests to related careers. Use this site to help students find CTE fields they may wish to explore and the skills needed for entry. Your state may have similar career investigation tools you can use.

ISSUE: *Youth do not know about CTE options within their schools*
SOLUTION: *Take students on a cruise of CTE programming*
Over a two-week period during homeroom class, freshmen at Roseburg High School in Oregon rotate through CTE programs to learn about their options. Students see classroom/lab areas, engage in hands-on activities, and speak with CTE instructors about coursework and career opportunities.
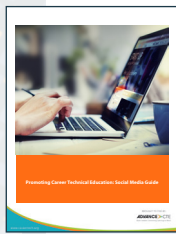
ISSUE: Traditional print marketing has little influence on youth
SOLUTION: Use digital media to publicize high-quality CTE programming
Students communicate using social media (e.g., Instagram, Snapchat, Twitter, Facebook). Develop your social media presence by posting online and engaging students as social media ambassadors. See the Social Media Guide from Advance CTE and the CTE Marketing Best Practices & Campaigns Playbook from Washington State to up your visibility.

ISSUE: Youth and parents lack awareness of CTE program benefits
SOLUTION: Target communication tools toward families
Prepare Rhode Island is an initiative to promote statewide career and college pathways. The includes a promotional website underscoring the benefits that career pathways offer and an ambassador program engaging education and community leaders in creating resources and trainings. See also ACTE's Engaging Families and Communities publication for additional ideas to spread the word.
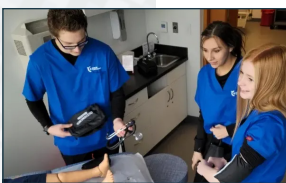
ISSUE: CTE programming is stigmatized as a non-academic option
SOLUTION: Showcase CTE on your district website
Davis School District in Farmington, Utah, promotes CTE as an effective strategy for life preparation. The district website profiles CTE course offerings and options for college credit and internships. Student testimonials and CTE statistics make a compelling case for engaging in district programming. Visit the site for ideas to communicate your school or district's strengths.

ISSUE: Teachers lack resources and training to offer career development services
SOLUTION: eDynamic Learning Middle School Library
Recognizing that youth need resources to inform their career development, eDynamic Learning has created an extensive library of elective and career courses that students can use to explore professions and gain the knowledge and skills needed to make career decisions *before entering high school*. Digital coursework can be used to structure or supplement classroom curriculum to assist educators in teaching about career options.

Other Worthwhile Approaches

- Develop middle school recruitment materials that showcase high school programming.
- Host high school visitations that pair middle schoolers with a high school student to tour facilities.
- Offer after-school or summer programming to engage students in career-related activities such as robotics, building drones and STEM and STEAM projects.
- Engage alumni, local employers and parents to serve as CTE ambassadors.
- Hold a CTE promotional week coinciding with when students are developing their class schedules.
- Create one-page infographics that describe careers associated with CTE offerings. See for example ACTE's Sector Sheets that showcase how CTE supports industries and prepares students for success.
- Develop career pathway templates detailing high school academic and technical course sequences that students can follow to enter employment or postsecondary education.
- Prepare and display posters that advertise CTE programs and statistics on related jobs and wages.
- Review your existing CTE coursework to find ways of offering college credits.
- Host family-focused events to communicate the benefits of CTE to parents.

ROOT CAUSE:

Youth face barriers to participating or persisting in CTE programming

Implicit bias occurs when students form mental associations about their career options through direct or indirect messaging. This can lead students to believe they are not prepared or a good fit for some careers. Take steps to ensure your school programs and career development services are inclusive and supportive.

Noteworthy resources

Strategies for Special Population Success

Members of special population groups face formidable obstacles to educational success. This booklet from the National Alliance for Partnerships in Equity (NAPE) offers a wealth of practical tips and tools that CTE educators can use to recruit and retain students. Strategies are tailored to each of the nine special population groups identified in the Perkins V legislation. An excellent resource replete with ideas and activities to jumpstart your planning.

PIPEline to Career Success for Students with Disabilities

This comprehensive document from NAPE summarizes the educational barriers that students with disabilities encounter in accessing CTE programming and a multitude of strategies for addressing them. Includes links to resources and descriptions of how educators can act to effect change. Required reading for anyone working with special needs students!

Strategies from the Field

ISSUE: Underrepresented students feel unwelcome in CTE classes
SOLUTION:Review curriculum and equipment for unintentional bias
Consider how workers are depicted in your instructional resources and whether language is racially neutral. See Advance CTE's Brave Dialogues: A Guide to Discussing Racial Equity in CTE for tips and tools on how to raise issues and facilitate what can be difficult discussions among your colleagues.

ISSUE: Nontraditional students do not enroll in CTE
SOLUTION:Offer role models to help students see themselves in the field
Help students enter nontraditional fields by inviting speakers to serve as role models. For example, the Mountain Lakes Chamber of Commerce in Alabama launched Women in the Trades, a workforce development initiative for girls in construction and manufacturing. Students visit worksites and hear from women that work in the trades.

ISSUE: English learners do not engage in CTE programming
SOLUTION: Adopt classroom approaches that help English learners succeed
The Houston Independent School District has created a tipsheet to help CTE teachers work with English learners. Suggestions include tailoring instruction to students' reading level, using scaffolding in native languages to promote engagement, and using pictures and graphic organizers to relate vocabulary with concepts.

ISSUE: Geographically isolated youth lack access to CTE programs
SOLUTION: Employ virtual learning to expand student learning options
Small and rural districts face challenges in offering CTE programming and keeping equipment updated. Virtual learning offers educators options for delivering high-quality CTE instruction at a distance. The California Department of Education maintains a robust website with CTE distance learning resources, including curriculum, media and online courses.
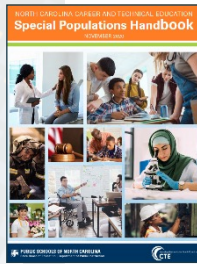
*ISSUE: Educators lack training and tools on how to support special needs students*
SOLUTION: Deliver professional development that empowers instructors
Teachers need help tailoring programs to support students with special needs. Accordingly, North Carolina has crafted the CTE Special Populations Handbook to sensitize educators to students' diverse needs. Similarly, Humble Independent School District in Texas created its own CTE Accommodations Manual. Access these resources for tested ideas.

ISSUE: Career counselors may unconsciously provide biased information
SOLUTION: Train career counselors to recognize and address inequitable beliefs
Unconscious bias and negative stereotypes may cause counselors to guide youth into different career pathways based on physical or cultural attributes. To document sources of potential bias, the National Board for Certified Counselors has created the Cognitive Bias Codex. This chart classifies 180 biases that affect people's memory, perception and decision making. Print and post the codex to sensitize people to potential sources of inequity.
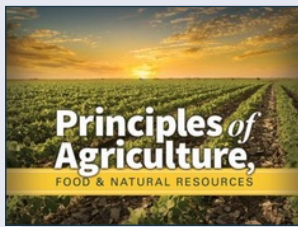
ISSUE: Teachers lack resources that enable special populations to participate
SOLUTION: eDynamic Learning Digital Textbooks
Understanding that technology can empower access, eDynamic Learning has created digital textbooks to support nearly 250 career and elective courses. Digital curriculum is WCAG2.0 compliant and responsively designed to run on all devices, reduce the digital divide and support hearing and visually impaired students. Additionally, features such as a Literacy Toolbar aid study skills and support English learners, students with dyslexia and students with IEP/504 accommodations. Now all your middle school and high school students can have access to CTE courses.

Other Worthwhile Approaches

- Assess whether labs and instructional facilities are accessible to students with disabilities.
- Ensure that personal protective equipment and tools are differentially sized so all students can participate.
- Translate CTE recruitment materials into different languages spoken at your school to inform students, parents and guardians about course offerings and benefits.
- Offset fees for industry-recognized credentialling assessments and CTSO activities that might otherwise prohibit some students from participating.
- Offer transportation alternatives to offsite CTE facilities or work-based learning locations.
- Deliver professional development to sensitize teachers to conscious and unconscious bias that may cause them to treat special population students unfairly.
- Survey students who do not participate in CTE to identify the reasons for their decision and any barriers that they faced when deciding.
- Invite members of stakeholder groups to serve on CTE advisory committees.
- Conduct a site audit to determine potential barriers to student engagement and how they might be remediated.
- Create a buddy system that pairs a special population high school senior with an incoming special population freshman to help ease transitions.
- Recruit workforce professionals from underrepresented groups to speak at school events and/or serve as role models for students.
- Review schedules to ensure that students are not prevented from accessing CTE because of other required courses.

ROOT CAUSE:

Students lack career knowledge and planning information

Students and families need access to comprehensive career planning and authentic work experiences to guide their CTE investment decisions. Development supports help students gain an understanding of specific careers and their associated wages, skills and credentials required for entry-level employment, as well as projected labor market demands. Work-based learning also can provide students with first-hand knowledge of their career options.

Noteworthy resources

The State of CTE: Career Advising and Development

This report produced by Advance CTE in cooperation with the American School Counselor Association summarizes strategies states are using to deliver career guidance services at the middle and high school levels and their perceived effectiveness. Apply the case studies and policy recommendations to rate and reinvigorate your site's career guidance supports.

### Putting Labor Market Information (LMI) in the Right Hands

This Advance CTE guide to using LMI in CTE describes the types of data that exist and how data can be used by CTE educators to support program design and modification. Links to state websites and related resources offer concrete examples of how data can be organized and accessed. Use this guide to learn why LMI matters and strategies that state leaders are pioneering to apply it effectively.
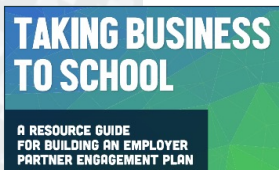
Taking Business to School: A Resource Guide

Employers can play a critical role in students' career development. To expand business and industry engagement, ACTE has created this comprehensive toolkit to aid CTE program leaders in partnering with employers. Use the tips provided to formulate a strategy for placing students in workplace experiences connected to their CTE studies.

Strategies from the Field
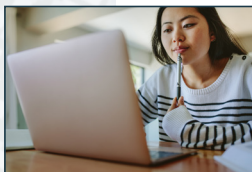
ISSUE: Youth are not aware of their career options
SOLUTION: Have students research career fields and skill entry requirements
The U.S. Department of Labor has created My Next Move, a comprehensive website that allows youth to find their dream career. Students can search occupations to identify entry-level skill and certification requirements, watch video profiles, and learn about average wages and projected labor market needs.

ISSUE: Youth do not know what classes to take to pursue a career
SOLUTION: Have students create career plans to structure their course taking
The Illinois Student Assistance Commission created Illinois PaCE to assist educators, students and families in making informed educational planning decisions. Resources include customizable individualized learning plans to help students chart a course of study. Download and modify templates for use in your own programs or check your state's career planning website for similar tools.

ISSUE: Students lack labor market information on career opportunities
SOLUTION: Offer data on current and projected employment openings
Quality CTE programs connect students to high-wage, in-demand careers. Track workforce trends using labor market data compiled by your state employment agency. The Trailblazers website, created by the Virginia Department of Education, exemplifies how labor market data can be used to inform students and parents about current and future employment options.

ISSUE: Students lack access to work-based learning experiences
SOLUTION: Simulate workplace experiences in the school
Students unable to participate in on-site placements may engage in school-based simulations that mirror the workplace. These may include campus-based businesses as well as the use of simulation software and tools. For example, the West Virginia Department of Education offers a statewide approach to simulated learning that includes an extensive resource library.

ISSUE: Introducing new CTE programs is cost prohibitive
SOLUTION: Partner with postsecondary providers to expand options
Consider partnering with nearby community colleges to share facilities and instructors. For example, Auburn Career Center in Ohio offers options for high school students to attend the technical college to earn industry credentials and credits that may apply towards graduation. Similarly, Central Oregon Community College offers College Now programming that enables high school students to earn college credit in CTE program areas.

ISSUE: Educators lack knowledge to set up employer partnerships
SOLUTION: Adapt existing employer outreach tools for use at your site
Local businesses often have the equipment and skilled workers who can offer on-site training to supplement classroom instruction. Employers also can serve as mentors for students, offering authentic insights. The CTE Technical Assistance Center of NY has compiled guides, worksheets and resources that educators can use to connect with employers.

ISSUE: Teachers lack resources to offer authentic workplace experiences
SOLUTION: Knowledge Matters Virtual Business Simulations
This virtual business suite of simulations offers teachers browser-based online simulations to teach basic concepts of business and finance. Nine simulations offer teachers complete lesson plans including simulation exercises, reading assignments and quizzes. Take students through the intricacies of hotel or restaurant management or learn about entrepreneurship or retailing. Give your students a real-world experience without ever leaving the classroom.

Other Worthwhile Approaches

- Work with area employers to offer teacher externships to help CTE instructors learn about career opportunities that may interest students.
- Provide students with fillable career pathway roadmaps and offer support in completing them.
- Require all students achieving CTE concentrator status to identify an occupation and backwards map the skills and credentials needed to enter it.
- Provide targeted professional development to guidance counselors and academic instructors to sensitize them to the benefits that CTE confers.
- Produce infographics that depict the skills, wages and projected labor market demand for jobs associated with CTE programming offered within your school, district or area technical center.
- Hold a joint professional development day with elementary, middle and high school counselors to align districtwide career readiness services and activities.
- Host a career signing day initiative to celebrate seniors who sign a "letter of intent" to take a job, enter an apprenticeship or pursue advanced technical training.
- Post the "Top 25" careers with the highest projected statewide growth and the wages and benefits accorded to workers.
- Connect with area professional associations to gather information on available job openings and resources to support students in finding employment.

Concluding Thoughts

Comprehensive K-12 career development services that promote broad access to CTE help students learn about their workforce options, gain advanced academic and technical skills, and get a head start in acquiring the credentials employers value. Prioritizing access and equity in career development services also can increase the CTE participation of historically underrepresented youth, which can contribute to expanding and diversifying the American workforce.

The resources and activities profiled in this whitepaper offer concrete steps to help you use career development to address the root causes of inequity in student participation and persistence in your CTE programming. To target your efforts, we recommend starting with the *ACTE Quality CTE Program of Study Framework*™ Program Self-Evaluation Instrument. This tool can help you pinpoint areas for improvement.

The tools offered in this whitepaper are a starting point for educators seeking to strengthen career development services and promote access and equity in CTE. Educators are encouraged to visit ACTE's High-Quality CTE Library to find more information and ideas.

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