



**Illinois  
State Board of  
Education**

# Unpacking High Quality CTE

Connections Conference

March 2019

# Who are we?

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- Marci Johnson, State CTE Director
- Kim Barnes, CTE Specialist
- John DeWeese, Business
- Whitney Mehaffy, Health Science
- Steve Parrott, Tech & Engineering
- Heather Strom, School Counseling
- Erica Thieman, Agriculture

- Go to [www.menti.com](https://www.menti.com) and enter the code

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- We will indicate when to answer the questions as we proceed throughout the presentation.



# What is a High-Quality Program?

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- How should high-quality CTE be defined?
  - Evaluate programs
  - Determine areas for targeted improvements
  - Recognize successful elements that should be scaled
- Topics for consideration
  - Teachers
  - Facilities
  - Curriculum
  - Equity and Access/Universal Design for Learning (UDL)



# College and Career - Perkins V



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- Reauthorization of the 2006 Carl D. Perkins Career and Technical Education Act
- Strengthening Career and Technical Education for the 21st Century Act (Perkins V)
- Signed into law on July 31, 2018.
- Develop the *academic knowledge and technical and employability skills* of secondary and postsecondary education students in CTE programs and programs of study.
- Requires secondary, postsecondary, and business/industry to *work together to strengthen CTE* for all students.
- Feedback – [perkins@isbe.net](mailto:perkins@isbe.net)

# Why are we here?

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- The world is moving at a tremendous rate, no one knows where. We must prepare our children, not for the world of the past, not for our world, but for their world. The world of the future.
- ~John Dewey, 1940



# What are the strengths and benefits of CTE?

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- For students?
- For schools?
- For communities?



# What challenges do you face with CTE?

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- 1. Teacher Pipeline
- 2. Resources
- 3. Lacking State Standards
- 4. Meeting Needs/Regulations for Business/Industry
- 5. Working with CTSOs
- 6. Equity/Accessibility
- 7. Development of Student Soft Skills
- 8. Image Issues



# 1. Educators

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## Challenges

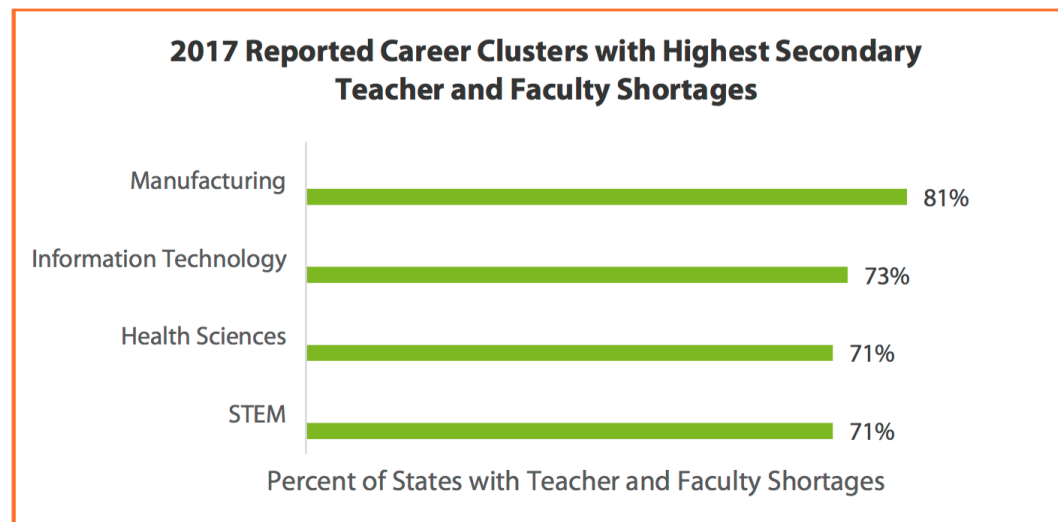
- Teacher pipeline
- Working with CTSOs
- Development of student soft skills
- Industry-required certifications/endorsements
- Alternative licensure

## Opportunities

- Real-world experience
- Alternative licensure
- Mentoring programs

# Educators--Challenges

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- The above data from 2017 has remained largely consistent over the past 10 years:
  - In **2008**, the highest shortages were reported in **Science, Technology, Engineering & Mathematics (STEM), Health Sciences** and **Manufacturing**, with over 50 percent of state CTE directors reporting shortages in each.
  - In **2012**, the highest shortages were in **Health Sciences, STEM** and **Agriculture/Food/Natural Resources**, each with 35 percent or more of states reporting a shortage.



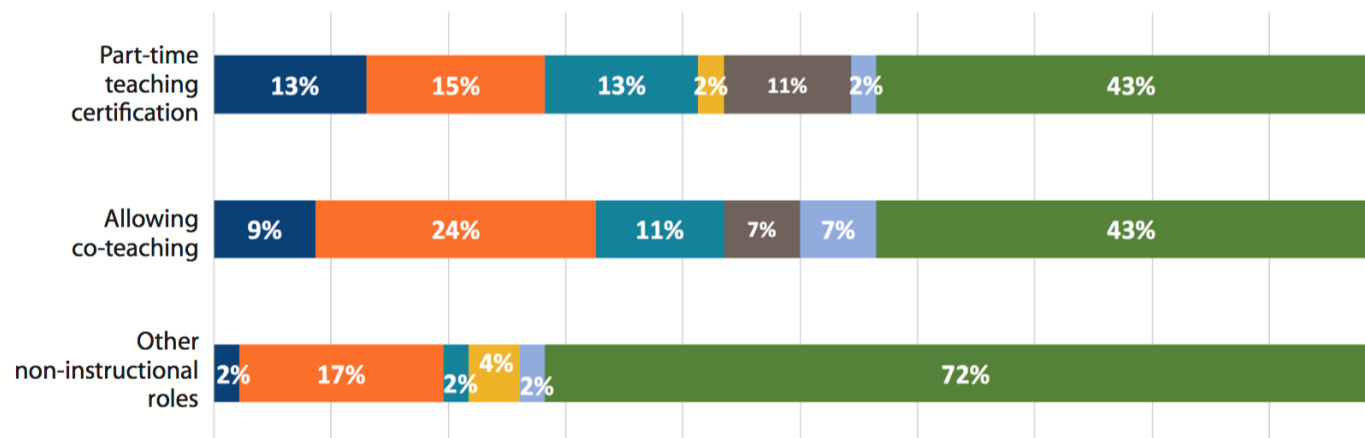
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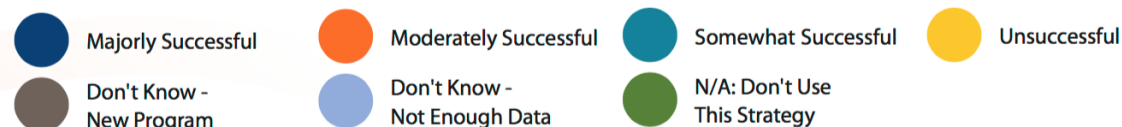
# Educators—Teacher Shortage

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**How successful were these strategies in increasing access to industry experts?**



Percent of all respondents



# Educators—Accessing Industry Experts

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- Posting open teaching positions on industry job sites;
- Leveraging relationships with industry stakeholders—such as chambers of commerce, unions, local employers, and CTSOs—to advertise opportunities and recruit experts into the classroom;
- Hiring school-based or district-based staff to build relationships and conduct outreach;
- Targeting industry experts who are retiring from their field;
- Inviting members of the employer community to observe CTE classrooms or evaluate students' projects or capstone presentations.

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# Educators--Alternatively licensed

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- Mentoring is essential to novice teacher success
  - School district mentorship
  - CTE teacher mentorship
  - Field-based mentorship
- Professional development opportunities
  - Online Master's programs/coursework
  - Workshops/Trainings
- Students with special needs
- Classroom management
- Curriculum development/selection/utilization



# Prepared and Effective Program Staff

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- a. CTE educators in the program of study meet minimum state, district and/or institution certification and licensing requirements.
- b. CTE educators maintain up-to-date knowledge and skills across all aspects of an industry and have appropriate industry-relevant credentials.
- c. CTE educators maintain relevant evidence-based pedagogical knowledge and skills.
- d. CTE educators engage in ongoing, rigorous professional development on a wide range of topics covering all elements of a high-quality CTE program of study, as described in ACTE's Defining High-quality CTE: Quality CTE Program of Study Framework, which might include pursuit of advanced educator certification.
- e. CTE educators demonstrate leadership and commitment to the profession.
- f. CTE educators have the time, resources and supports to implement all elements of a high-quality CTE program of study, as described in ACTE's Defining High-quality CTE: Quality CTE Program of Study Framework.
- g. CTE educators, academic educators, counselors, administrators and other relevant staff collaborate regularly and frequently to coordinate curriculum, instruction, assessment and extended learning activities and to analyze data for program improvement



## 2. Resources

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- Challenges
  - Curriculum
  - Credentialing
  - Facilities
  - Equipment
  - Industry Requirements
- Opportunities
  - Your friendly ISBE consultants and EFEs
  - Grants
  - Industry Experts



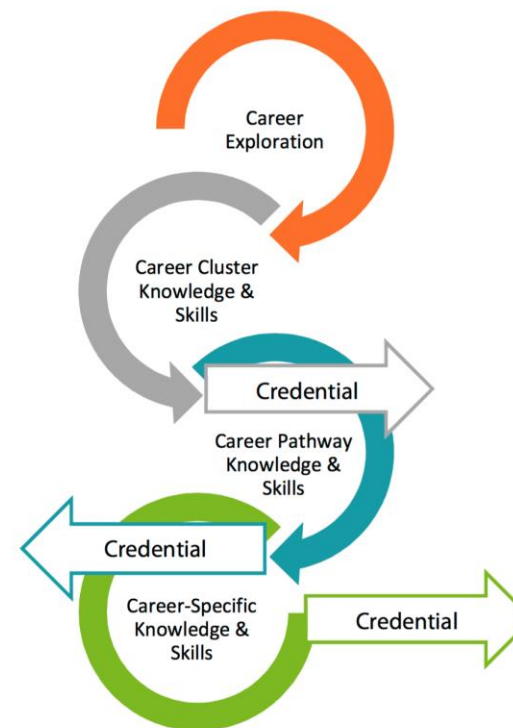
# Resources—Programs of Study

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## Programs of Study

- Consist of an intentional **sequence of specialized courses**;
- Link **secondary and postsecondary** education;
- Integrate **challenging academic and technical** instruction;
- Include **dual credit** opportunities;
- Lead to an industry-recognized **credential, certificate or degree**

A Program of Study's Progression



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# Resources—Industry Experts

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- Not just teachers--there are other ways industry experts may contribute to student experiences, experts may support students' career pathways in roles such as:
  - Part-time or “adjunct” high school instructors,
  - Career advisers or counselors,
  - Postsecondary faculty who teach dual or concurrent enrollment courses,
  - Mentors and career coaches,
  - Advisors for Career Technical Student Organizations.

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# Resources—Industry Experts

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- Full time or part-time teaching
- Competition judging
- Mentoring and advising
- Participating in career day events
- Guest speaking
- Offering internships/apprenticeships



# Facilities and Equipment

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- a. Facilities and equipment used in the program of study reflect current workplace, industry and/or occupational practices and requirements.
- b. Facilities and equipment support and align to curriculum standards and program objectives.
- c. Facilities and equipment meet appropriate federal, state and local standards for occupational safety and health, as applied in the related industry.
- d. Students demonstrate safe and appropriate use and maintenance of facilities and equipment within the CTE program of study.
- e. Processes are defined and resources provided to regularly inspect, update and replace facilities and equipment, as necessary.
- f. Program of study partners collaborate to maximize student access to relevant facilities and equipment.
- g. Relevant materials, tools, supplies and personal protective equipment are available and used appropriately.
- h. Facilities are free from bias, inclusive and non-discriminatory, and they meet all Title IX, Americans with Disabilities Act and other accessibility requirements.



# 3. Lacking State Standards

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## Challenges

- No state standards
- Quality control
- Evaluation of teachers and learners

## Opportunities

- No state standards
- Autonomy—responsive to local needs
- Competency-based evaluation

# Standards-aligned and Integrated Curriculum

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- a. The program of study curriculum is developed with employer input to prepare students for both further education and in-demand and emerging careers.
- b. The curriculum is based on industry-validated technical standards and competencies.
- c. The curriculum is aligned with relevant content and standards for core subjects, such as reading, math and science, including federal, state and/or local standards, as appropriate.
- d. The curriculum incorporates employability skill standards that help students succeed in the workplace, such as problem solving, critical thinking, teamwork, communications and workplace etiquette.
- e. The curriculum allows for student application of integrated knowledge and skills in authentic scenarios.
- f. Program of study standards are publicly available and accessible, as appropriate, to students, parents/guardians, partners and the community.
- g. The curriculum is reviewed regularly by all relevant stakeholders and revised as necessary to reflect the latest advances in the field, evidence-based program models and evaluations of student performance.



# Sequencing and Articulation

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- a. The CTE program of study includes a sequence of courses and/or competencies across secondary and postsecondary education that incorporates technical, academic and employability knowledge and skills.
- b. The program of study starts with broad foundational knowledge and skills and progresses in specificity to build students' depth of knowledge and skills.
- c. Content and standards within the CTE program of study are non-duplicative and vertically aligned to prepare students to transition seamlessly to the next level of education.
- d. The CTE program of study sequence leads to one or more recognized postsecondary credentials, including industry certifications, licenses, apprenticeship certificates, postsecondary certificates and degrees.
- e. Students in the CTE program of study have opportunities to earn postsecondary credit while in high school.
- f. Secondary and postsecondary CTE educators, along with representatives of the employer community, collaborate regularly on course sequencing, vertical alignment and opportunities for postsecondary credit.
- g. The program of study is coordinated with broader career pathways systems, as defined in the Workforce Innovation and Opportunity Act, such as through the development of stackable credentials, as appropriate and available.

# Engaging Instruction

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- a. Program of study instruction is driven by relevant content area standards and learning objectives.
- b. Project-based learning and related instructional approaches, such as problem-based, inquiry-based and challenge-based learning, are fundamental to the CTE program of study.
- c. Contextualized instruction results in students applying technical, academic and employability knowledge and skills within authentic scenarios.
- d. Instruction emphasizes the connection between academic and technical knowledge and skills, including through cross-disciplinary collaboration.
- e. Instruction incorporates relevant equipment, technology and materials to support learning.
- f. Instruction is flexible, differentiated and personalized to meet the needs of a diverse student population.
- g. Management of the educational environment builds a culture of learning and respect.

# Work-based Learning

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- a. Work-based learning is organized in a sequenced continuum that progresses in intensity as a student moves through the program of study, including a range of activities such as workplace tours, job shadowing, schoolbased enterprises, internships and apprenticeships.
- b. Work-based learning experiences are an integral part of the program of study curriculum and the full continuum is accessible to every student at some point during the program of study.
- c. The work-based learning continuum is aligned with relevant national, state and/or local curriculum standards.
- d. Work-based learning experiences develop and reinforce relevant technical, academic and employability knowledge and skills.
- e. Work-based learning experiences are aligned with each student's multi-year education and career plan.
- f. Work-based learning experiences provide students with meaningful interactions with business professionals at school, in workplaces, in the community and/or virtually.
- g. Requirements and procedures for work-based learning experiences that address access, selection, liability, supervision, safety, transportation, learning objectives and evaluations are formalized with employers, students and, as appropriate, parents/guardians.
- h. Training is provided to students and employers in advance of work-based learning experiences, addressing each stakeholder's rights and responsibilities as well as safety and appropriate behavior.
- i. Work-based learning experiences comply with relevant federal, state and local laws and regulations.
- j. Work-based learning experiences are closely supervised by an educator and/or other appropriate staff with clearly defined roles.
- k. Employers play a leadership role in developing, facilitating and evaluating work-based learning experiences.
- l. Students engage in reflection and document learning resulting from work-based learning experiences, such as through a portfolio or presentation.



# Student Assessment

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- a. Formative and summative assessments are integrated throughout the program of study to validate student learning gains, including both classroom/school-based and standardized, third-party assessments, as appropriate.
- b. Assessments are aligned to program standards and curriculum and appropriate to students' current level of knowledge and skill attainment.
- c. Assessments are valid, reliable and developed or chosen in accordance with relevant quality standards.
- d. The CTE program of study incorporates multiple forms of assessment, including performance-based assessment where students must demonstrate the application of their knowledge and skills.
- e. Assessments within the CTE program of study provide objective information on student attainment of industry-validated technical knowledge and skills provided by program curriculum.
- f. Assessments within the CTE program of study provide objective information on student attainment of academic knowledge and skills provided by program curriculum.
- g. Assessments within the CTE program of study provide objective information on student attainment of employability knowledge and skills provided by program curriculum.
- h. The CTE program of study prepares students for assessments that lead to recognized postsecondary credentials, as available and appropriate.



## 4. Meeting Needs/Regulations for Business/Industry

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### Challenges

- Resource requirements
  - Time
  - Money

### Opportunities

- Students receive industry-valued credentialing
- Essential experience using equipment that will be used on the job

# Business and Community Partnerships

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- a. Representatives of the program of study actively conduct outreach activities to develop partnerships to ensure the program of study is informed by employer and community needs.
- b. The program of study has a formalized, structured approach to coordinating partnerships, such as an advisory board or sector partnership.
- c. Partners include a diverse range of employers; industry representatives; community, workforce and economic development agencies; and other education stakeholders.
- d. The program of study has partners who:
  - • identify, validate and review curriculum for technical, academic and employability knowledge and skills that meet the needs of students and industry
  - • identify appropriate assessments and recognized postsecondary credentials
  - • evaluate equipment, facilities and materials to ensure they are consistent with industry standards
  - • provide input on current and future workforce demand and skill needs to inform updates to the program of study
  - • provide input on the further education and training necessary for career pathways
  - • identify, provide and evaluate work-based learning experiences for students
  - • participate in CTSO activities; for example, by serving as mentors and judges
  - • offer opportunities, such as externships, for educators to stay current with industry-relevant knowledge and skills
  - • provide support in tangible ways, such as by investing funds, providing in-kind support and/or helping raise external funds to meet program of study goals
  - • advocate for and promote the program of study
  - • help to evaluate the effectiveness of the program of study in preparing students for further education and careers



# Career Development

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- a. Comprehensive career development is coordinated and sequenced to promote and support the career decision making and planning of all students, both prior to entering and during the program of study.
- b. Each CTE student in the program of study has a personalized, multi-year education and career plan that reflects exploration of the student's interests, preferences and abilities; and informs course selection, planning for further education and a career, and involvement in extended learning.
- c. Career development activities are aligned with relevant national, state and/or local standards.
- d. Students in the program of study and their parents/guardians, as appropriate, are provided accurate and timely information on:
  - • extended learning experiences available through the program of study, such as work-based learning, CTSO participation and postsecondary credit attainment
  - • further education and training options, including application procedures, enrollment, financing, and their projected educational, employment and earnings outcomes
  - • regional occupational trends and outlook, high-demand and high-wage career opportunities, and the educational pathways that lead to current and projected career opportunities
- e. Students in the program of study have access to job search information and placement services as they near completion of the program of study.
- f. Guidance, counseling and advisement professionals have access to up-to-date information and training about extended learning experiences, education and training options, and regional occupational trends, in order to aid students in education and career planning and decision making



# 5. Working with CTSOs

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## Challenges

- Increases educator work load
- Alternatively licensed educators may have no experience

## Opportunities

- Can increase value for students (leadership)
- Can enhance curriculum
- Provide opportunities for community/industry engagement
- PR opportunity for the program

# Working with CTSOs—Teacher/Advisors

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- Mentorship for novice teachers on working with CTSOs
  - Fundraising
  - Trips
  - Volunteer/Parent Management
  - Student leadership Development
  - Competition/Team Coaching

# Career Technical Student Organizations (CTSOs)

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- a. A CTSO is an integral, intra-curricular part of the CTE program of study, available to every student at some point during the program of study.
- b. The CTSO is aligned with relevant national, state and/or local standards.
- c. CTSO activities develop and reinforce relevant technical, academic and employability knowledge and skills.
- d. The CTSO provides opportunities for students to interact with business professionals.
- e. The CTSO provides opportunities for students to participate in relevant competitive events.
- f. The CTSO provides opportunities for students to participate in relevant community and school service activities.
- g. The CTSO provides opportunities for students to participate in leadership development activities.
- h. The CTSO is closely supervised by an educator and/or other appropriate staff with clearly defined roles.



# 6. Equity/Accessibility

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## Opportunities

- Nontraditional students
- Increase opportunities for students with special needs or low SES background
- Diversity is increasing in world
- UDL included in Perkins V

## Challenges

- Retro-fitting facilities
- Curriculum evaluation
- Educator bias checks

# Equity/Accessibility

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- Postsecondary learners from low-income backgrounds and first generation face many nonacademic barriers
  - Navigating complex bureaucracies
  - Maintaining employment
  - Arranging for family care (parents/dependents)
- Gallup poll found that among postsecondary learners, work-based advice about the major and course choices was most helpful, but least used of other advice sources
- Career advising is a crucial part of successful CTE programs
- Career advising resources are available!

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# Equity/Accessibility--UDL

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- Universal Design for Learning
  - Learning spaces are designed in a way that removes access barriers
  - Prevents needing to modify/adapt curriculum/facilities for special cases
  - Not all learners will have a specific diagnosis, so more than just the students with explicit need will likely benefit
  - Removes access barriers from the educator side as well

# Access and Equity

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- a. The CTE program of study is promoted to all potential participants and, as appropriate, their parents/guardians, in a manner that is free from bias, inclusive and non-discriminatory.
- b. Students who have been traditionally underrepresented, including by gender, race and ethnicity, and special population status, are actively recruited.
- c. Career guidance is offered to all potential and current program of study participants in a manner that is free from bias, inclusive and non-discriminatory and that takes into account student interests, preferences and abilities.
- d. As appropriate, accommodations to facilities and equipment as well as curriculum, instruction, materials and assessments are provided to ensure all students have the opportunity to achieve success in the program of study.
- e. As appropriate, support services, such as tutoring and transportation assistance, are provided to ensure all students have the opportunity to achieve success in the program of study.
- f. Curriculum, instruction, materials and assessments are free from bias, inclusive and non-discriminatory.
- g. Appropriate actions are taken to eliminate barriers to extended learning experiences, such as work-based learning, CTSO participation and postsecondary credit attainment, for all students, including special populations.



# College & Career

## Postsecondary & Workforce Readiness (PWR)

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The Postsecondary & Workforce Readiness Act takes a *student-centered & competency-based approach* to create four strategies to help students prepare for postsecondary & career opportunities

The [Postsecondary and Career Expectations \(PaCE\) framework](#) outlines what students should know & actions they should take from 8<sup>th</sup>-12<sup>th</sup> grade to:

- Select the right postsecondary option,
- Prepare for careers, &
- Access financial aid opportunities.



# 7. Development of Student Soft Skills

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## Opportunities

- High employer desire
- Can set CTE graduates apart from the crowd

## Challenges

- Can be more difficult to teach/integrate into curriculum
- Lacking curriculum

# Soft Skills

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- US Dept of Labor hosts ODEP developed curriculum
  - Communication
  - Enthusiasm/Attitude
  - Teamwork
  - Networking
  - Problem Solving and Critical Thinking
  - Professionalism
- ACTE Fellow spotlight—Monthly Soft Skill focus

# 8. Image Issues

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## Opportunities

- Data does not support the stereotypes in many cases
- Current research challenges the stigma
- Encourage CTE concentration

## Challenges

- Many parents still believe the stereotypes hold true
- Counselors who have bias against CTE

# Image Issues—Programs of Study

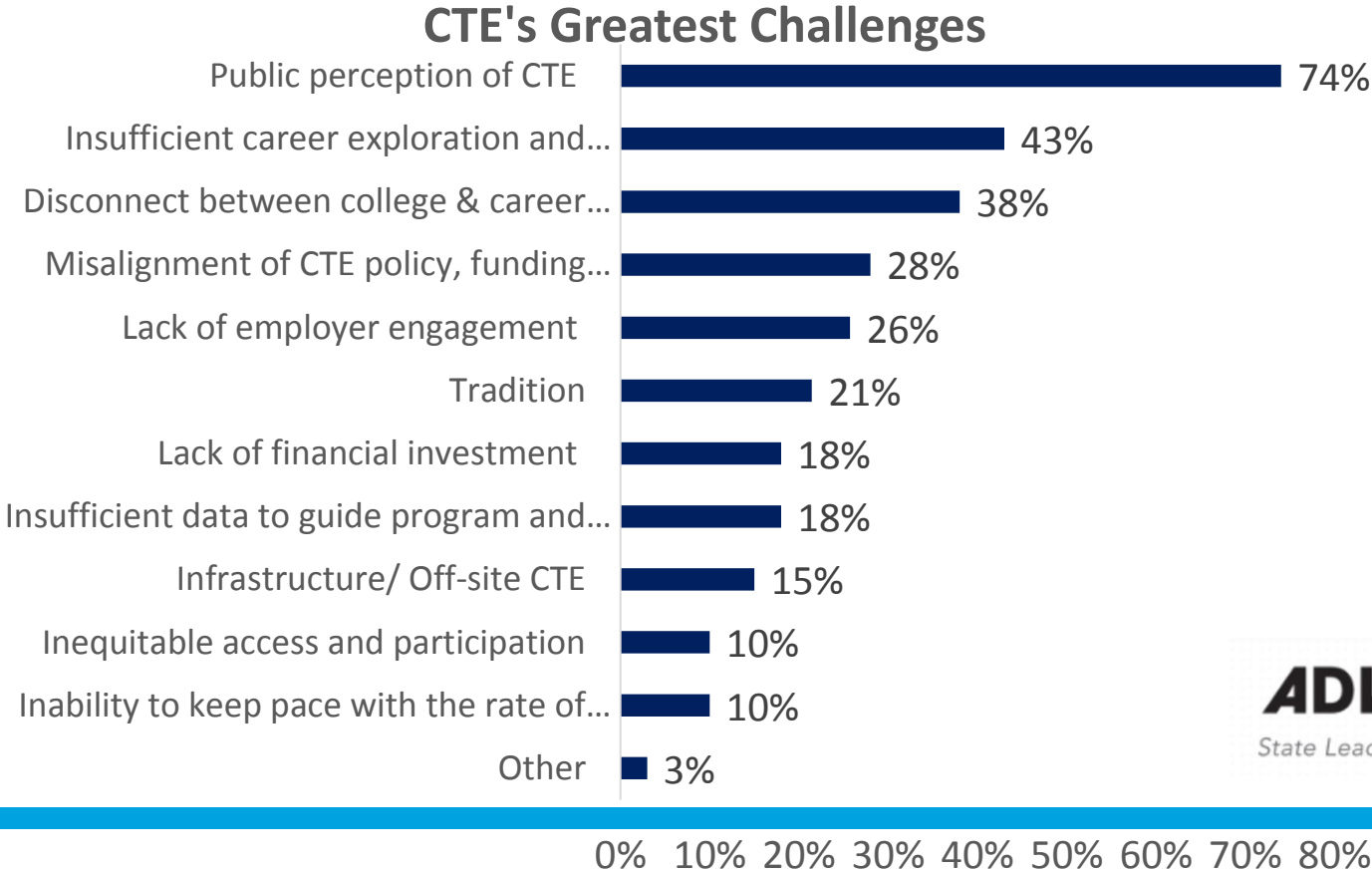
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- Research out of Arkansas finds that CTE concentrators – those completing three or more credits in a program of study – were more likely to graduate high school, enroll in college, be employed and earn higher wages than their peers.
- More evidence indicates that students in programs of study outperform their non-CTE peers as well as those enrolled in traditional CTE programs. Participation in a program of study:
  - increases the likelihood of graduation (between 9-11 percent across districts),
  - overall GPA (by upwards of 0.45 in one school district), and
  - CTE GPA.

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# CTE's Stigma Issue

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# Key Findings

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CTE Delivers for Parents and Students

College and Career Success are Both Important Goals for Parents and Students

CTE Has an Awareness Challenge

Prospective Parents and Students are Attracted to the “Real World” Benefits of CTE

CTE Needs Champions and Messengers

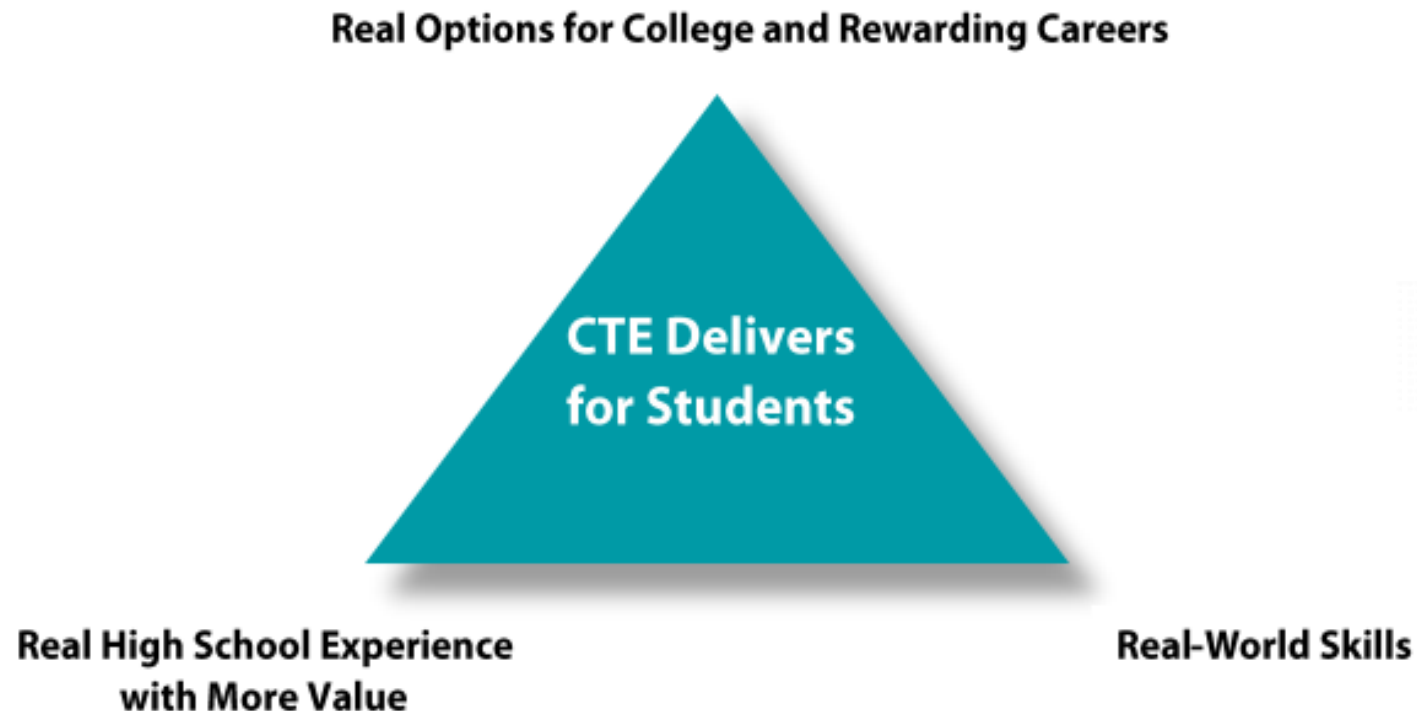
# Real World Message Entices **Everyone**

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- Top-ranked message across **ALL audiences**, by race, ethnicity, education level, income level and geographic distribution
- All subpopulations selected CTE's ability to offer students real-world skills as one of the three most important elements of their education.
- Advance CTE provides tools and resources for recruiting students into CTE - <https://careertech.org/recruitmentstrategies>.

# Core Messages – Attract Students to CTE

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# Data and Program Improvement

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- a. Continuous evaluation of each element of ACTE's Defining High-quality CTE: Quality CTE Program of Study Framework, including all stakeholders, supports program improvement.
- b. All stakeholders understand why data is collected, how it will be used, and its value in supporting student success.
- c. There is a formal process in place for the systematic and continuous use of student performance data for program improvement, including identifying and addressing equity gaps.
- d. Collaborative processes and supports are in place in the program of study to ensure the timely and accurate collection and submission of data for required reporting.
- e. Federal and state performance indicators form the foundation of data collection, analysis and reporting; however, additional data on student access and performance are included, as appropriate, to aid in program improvement.
- f. Privacy and security protections are in place for data collection, storage, analysis and reporting. Protections adhere to all federal, state and local privacy laws.
- g. Educators have access to relevant valid and reliable aggregate data on all students participating in the program of study.
- h. Educators have access to relevant valid and reliable data disaggregated by gender, race and ethnicity, and special population status, thus facilitating comparisons of access and performance among subpopulations and with the general student population.
- i. Data is shared, as appropriate, in an easy-to-understand format with students, parents/guardians, partners and the community.



# Program Self Evaluation

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- Can be a tool to drive local planning through needs assessment to determine programming needs
- Accountability measure for best uses of funding and resources
- Ensure student and community needs are being met
- Resources available!

# High-Quality CTE Resources

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- Office of Community College Research & Leadership (OCCRL)
  - [Guiding Principles for POS](#)
  - [Self-Assessment Tools & Other Resources](#)
- Association for Career & Technical Education (ACTE)
  - [Quality CTE POS Framework](#)
    - [Print Self-evaluation Instrument](#)
    - [Online Self-evaluation Instrument](#)

# High-Quality CTE Resources

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- Advance CTE:
  - [Policy Benchmark Tool: CTE Program of Study Approval](#)
  - [Career Clusters Local Implementation Self-Assessment Rubric](#)
  - [Your Role in Putting Learner Success First: Local Self-Assessment](#)
  - [Resource Center](#)
  - [Federal Career Clusters](#)

# ISBE Resources

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- College & Career Readiness (CCR):
  - CTE - <https://www.isbe.net/Pages/Career-Technical-Education.aspx>
  - CCR Indicators Guidance - <https://www.isbe.net/Documents/College-Career-Ready-Indicator.pdf>
  - Career Pathways Dictionary - <https://www.isbe.net/Documents/IL-Career-Pathways-Dictionary.PDF>
- School Counseling
  - <https://www.isbe.net/Pages/SchoolCounselors.aspx>
- Student Voices (student resources developed by students)
  - <https://www.isbe.net/studentvoices>

# ISBE Vision, Mission, & Values

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<b>Vision:</b> Illinois is a state of whole, healthy children nested in whole, healthy systems supporting communities wherein all people are socially and economically secure.	<b>Goals:</b> Every child in each public school system in the State of Illinois deserves to attend a system wherein... <ul style="list-style-type: none"><li>• All kindergartners are assessed for readiness.</li><li>• Ninety percent or more of third-grade students are reading at or above grade level.</li><li>• Ninety percent or more of fifth-grade students meet or exceed expectations in mathematics.</li><li>• Ninety percent or more of ninth-grade students are on track to graduate with their cohort.</li><li>• Ninety percent or more of students graduate from high school ready for college and career.</li><li>• All students are supported by highly prepared and effective teachers and school leaders.</li><li>• Every school offers a safe and healthy learning environment for all students.</li></ul>
<b>Mission:</b> Provide leadership and resources to achieve excellence across all Illinois districts by engaging legislators, school administrators, teachers, students, parents, families, and other stakeholders in formulating and advocating for policies that enhance education, empower districts, and ensure equitable outcomes for all students.	



# College & Career Readiness Division

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