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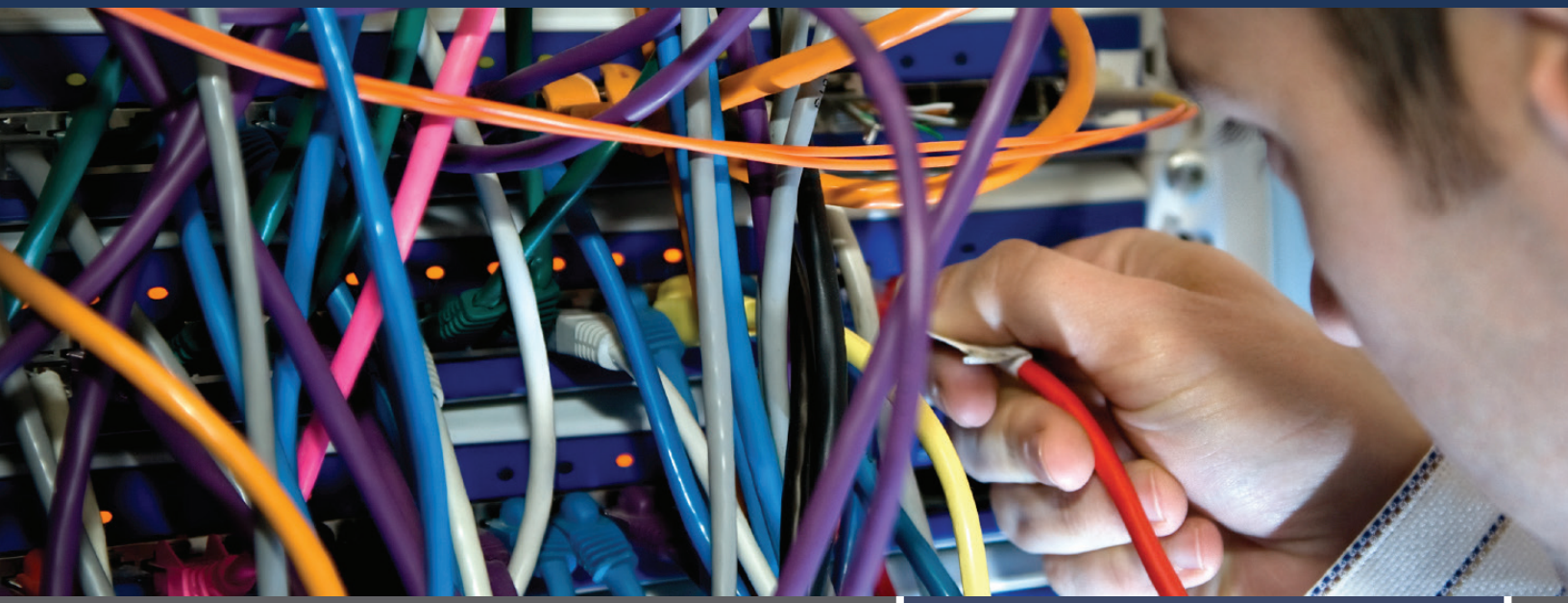
CTE Works!

2014 Results from a National Survey

myCollegeOptions®



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This research brief was created through a joint effort between My College Options® and the Association for Career and Technical Education (ACTE) to examine the state of Career and Technical Education (CTE) in our nation's high schools. Students and educators were asked to share their attitudes and opinions on CTE, their experiences in the CTE classroom, and their future plans regarding CTE courses and programs.

ACTE is the largest national education association dedicated to the advancement of education that prepares youth and adults for careers. ACTE's core purpose is to provide leadership in developing an educated, prepared, adaptable and competitive workforce that will meet the needs of skilled trades, manufacturing, health care, and STEM occupations, among other fields. To that end, ACTE is committed to enhancing the job performance and satisfaction of its members, to increasing public awareness and appreciation for career and technical programs, and to assuring growth in local, state and federal funding for these programs by communicating and working with legislators and government leaders.

Table of Contents

About the ACTE Research.....2

Research Findings:

College and Career Skills.....3

Student Motivation for CTE.....4

Business/Industry Involvement.....5

Funding.....6

Research Methodology.....7

Sample Demographics.....7

Appendices:

2013-14 ACTE Student Survey.....10

2013-14 ACTE Educator Questionnaire.....11

1/3
of students report they have been given the chance to earn college credit, a certification or a degree because of their CTE coursework.

2/3
of students report they are learning skills in their CTE courses that will help them to get jobs in the future.

Today's cutting-edge, rigorous and relevant career and technical education (CTE) prepares youth and adults for a wide range of high-wage, high-skill, high-demand careers. CTE programs enhance core academic skills, employability skills (e.g., critical thinking and responsibility), and job-specific technical skills related to specific career pathways. These career pursuits frequently lead to degrees, industry-recognized certifications, or apprenticeships.

High numbers of CTE students (85%) plan to pursue post-secondary educations, and CTE students have a significantly greater high school graduation rate (90%) than the national average (75%).

The top 10 occupational interests of CTE students

correspond closely with the needs of technical and medical industries. A number of these occupations are in demand, according to the U.S. Bureau of Labor Statistics.

- 23% Nursing/ Health Care
- 13% Engineering (Mechanical)
- 11% Medical Science
- 10% Doctor/ Physician
- 6% Criminal Justice/Law Enforcement
- 5% Physical Therapy
- 5% Child care/ Development
- 4% Business Owner/ Entrepreneur
- 4% Medical Technology
- 4% Sports Medicine

Student Motivation for CTE Courses & Acquired Skills

CTE Student Findings

- Almost half of students who plan to pursue a career in mathematics and 30% of students with an "A" average are developing higher levels of math and science skills as a result of their CTE courses.
- Sixty percent of students taking CTE courses and 62% of students interested in engineering plan to pursue a career related to one of the career and technical areas they are studying.

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Students are highly motivated to participate in CTE programs for purposes of academic achievement, life-skill preparation, and the pursuit of high-skill, high-demand careers that could have a positive impact on their lifetime earnings. CTE students said their courses equip them with important interpersonal and soft skills – key abilities for future managers and leaders – in areas such as creativity and innovation (35%), team participation and team building (31%), problem solving and analysis (27%), and leadership (29%).

Students also find that tying their learning to examples in the real world helps them better understand their academic classes, and they feel they are building new skills and improving existing ones.

Why Students Choose CTE Courses

- **62%** Prepare for life after high school
- **56%** Develop new skills
- **34%** Learn about specific careers
- **33%** Improve existing skills
- **30%** Explore the range of career opportunities

Students say they get:

- **58%** Courses directly related to their future career
- **45%** Better overall academic comprehension
- **21%** Greater math and science skills
- **12%** Improved reading and writing skills

Business & Industry and Academic Integration

Researchers estimate that over 16 million jobs created by 2020 will require some post-secondary education or a two-year associate degree. Many of these jobs will be in CTE fields such as the skilled trades, health care, manufacturing, IT, business and marketing, among others, including many occupations that employers find hard to fill.

CTE brings education and business together so that students gain real world understanding of their skills and are equipped for career success. Nearly all CTE educators report working with business and industry leaders in their programs in a range of capacities, from advisory panels to classroom visits to offering internships and job shadowing opportunities to students. The business community helps validate the CTE curriculum and donates supplies and equipment. This relationship helps educators ground their curriculums in the real needs of real businesses, leading students to obtain skills that will be highly valuable in the job market.

CTE Educator Findings

- The majority of CTE educators report that business and industry leaders serve on advisory committees and interact with students.
- 95% of CTE educators report integration between CTE and academics in their classroom and/or school.

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ACTE members are more likely to work with business and industry leaders:

Business and Industry Involvement

ACTE Members		Non-members
86%	Serving on program advisory committees	58%
67%	Visiting the classroom to speak to students	61%
52%	Offering job shadowing to students	39%
41%	Donating equipment and supplies	33%
40%	Offering students internships	34%
38%	Validating course standards and curriculum	24%

CTE Educator Findings

- Thirty percent of CTE educators would use an increase in federal funding for professional development.
- Four out of 5 CTE educators would use an increase in federal funding to purchase new equipment.

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Even as business and industry publicly state their high need for skilled employees, CTE programs are facing funding challenges. American competitiveness relies on the health of our economy, yet nearly 60% of CTE educators say their funding has been reduced in recent years. Nearly all CTE programs rely on Perkins Act funding, yet ACTE has found Perkins Act funding has been cut by over $140 million since 2010. Budget disagreements in Congress resulting in sequestration have a direct negative impact on CTE programs.

Most educators say that an increase in funding would be used to update equipment crucial to maintaining an educational level that is current and relevant. Educators would like to see updated curriculum materials, and would seek professional development to stay current with changing industry technologies and improve their knowledge and course content.

Federal funding for CTE comes from:

- **92%** Carl D. Perkins Career and Technical Education Act
- **7%** Individuals with Disabilities Education Act
- **20%** Other formula funds
- **18%** Competitive funds won by school/district

Resources/Equipment Quality:

43% of educators rate their resources/equipment quality from average to very poor

20% Very Good

37% Good

Current professional development focus:

- **55.8%** Course content and knowledge
- **55.3%** Academic and CTE integration
- **51.5%** Staying current with industry methods and needs

Research Methodology

The Association for Career and Technical Education research, conducted by NRCCUA®, was constructed using the results of paper surveys administered in high schools nationally. The ACTE student survey and educator questionnaire were designed by ACTE and NRCCUA, and administered by NRCCUA. The data analysis and presentation were conducted by NRCCUA. In the fall of 2013, the ACTE survey was mailed to educators across the nation. These educators were asked to distribute the survey to their students, as well as complete an ACTE educator questionnaire.

Sampling Error

The margin of error and the confidence interval below are a measurement of how well the ACTE survey results represent the entire student community. For example, in theory, one could say that if we performed the survey 100 times, the results for each respondent would fall within the margin of error above or below the percentage reported 99 out of 100 times.

Respondent Group.....All students
Sample.....51,501
Estimated Population.....12,901,709
Margin of Error (MOE-99%).....+/- 0.6%

Nonsampling Error

It is possible that question wording and logistical difficulties in conducting surveys can introduce error or bias into the findings, in addition to that caused by non-response and sampling error.

Demographic Weights

When appropriate, demographic weights were created and applied to the data to reduce the effects of survey sampling and response bias. Weights were calculated for graduation year, ethnicity and state using the high school graduate projections from the Western Interstate Commission for Higher Education (WICHE).

Sample Demographics

Students

# of Student Respondents.....51,501

Gender

Male.....53.0%
Female.....47.0%

Ethnicity

American Indian.....2.0%
Asian.....2.5%
African-American.....13.0%
Hispanic.....15.1%
Middle Eastern.....0.4%
White.....45.3%
Other/Multiracial.....15.2%
Prefer not to respond.....7.3%

Graduation Year

2014.....28.7%
2015.....31.5%
2016.....23.2%
2017.....16.1%
2018.....0.4%

Grade Point Average

A.....31.9%
B.....53.5%
C.....13.5%
LC.....1.2%

Educators

# of Educator Respondents.....903

Community

Rural.....51.7%
Suburban.....20.0%
Urban.....28.3%

School Type

Public.....99.3%
Private.....0.7%

About My College Options®

For over 40 years, the National Research Center for College & University Admissions™ (NRCCUA®) has been gathering information on student and educator attitudes and interests. Every year, 2.5 million high school students, in over 95% of the public and private high schools in the country, participate.

NRCCUA operates the nation's largest college planning program, My College Options, which directly benefits participating students, families and educators by providing them with comprehensive resources on colleges and universities, the college search and admissions processes, financial aid and scholarship programs, and more.

Through our research partnerships, we seek to assist the educational community in every way possible. Our research partners are able to reach millions of students and thousands of educators through our extensive reach and relationships with administrators, educators and students.

Thank you for your support and partnership in connecting our nation's youth with educational opportunities. We hope that the data gathered will be of significant value to your organization. For more information about this report and our research programs, please visit:

www.nrccua.org/research

Research Advisory Board

The My College Options Research Advisory Board assists the research efforts of NRCCUA and its partners by periodically reviewing our survey instrument, data collection and reporting methods to increase quality and value, and ensure our findings are aligned with current education research best practices.

Each member of the Board offers a unique perspective on educational issues, including college access for underrepresented students and minority programs, national education leadership and higher education administration, and the development of human service policy initiatives.

Dr. Nicole Francis
President & CEO
Visionary Policy Institute

Dr. Steven M. LaNasa
President
Donnelly College

James M. Rubillo
Former Executive Director
National Council of Teachers
of Mathematics

Appendices

Career and Technical Planning Profile

Association for Career and Technical Education ACTE

ALL ITEMS IN BOX ARE REQUIRED FOR PROCESSING.

PLEASE PRINT CLEARLY WITH A **NO. 2 PENCIL** OR **BLACK** OR **BLUE INK** ONLY! COMPLETELY FILL IN CIRCLES.

First Name _____ Last Name _____

Home Address _____

City _____ State _____ Zip _____

Preferred Email _____

Your High School Name _____

Birth Date	Gender	High School Graduation Year	What is your grade average?	Scale:
month ___ day ___ year ___	○ Male ○ Female	○ 2014 ○ 2015 ○ 2016 ○ 2017 ○ 2018 ○ 2019	○ A+ ○ A ○ A- ○ B+ ○ B ○ B- ○ C+ ○ C ○ Lower than C	A=4, B=3, C=2, D=1, Failing=0

Home Phone ( ) _____ Cell Phone ( ) _____

Parent First Name _____ Parent Last Name _____

YOUR ACTIVITIES AND POST-SECONDARY PLANS

1. What are your college/career plans within one year after graduation? (Darken ONE)

A. ○ Attend a 4-year college or university
B. ○ Attend a community college
C. ○ Attend a vocational/technical school
D. ○ Pursue an apprenticeship or certification
E. ○ Enter the workforce (I have secured a job.)
F. ○ Enter the workforce (I will be looking for a job.)
G. ○ Enter the military
H. ○ I will not graduate.

2. Are you planning to pursue a career related to one of the career areas you are studying? (Darken ONE)

A. ○ Yes B. ○ No C. ○ I don't know.

3. Why are you taking career and technical education courses? (Darken as many as apply)

A. ○ To prepare for life after high school
B. ○ To learn new skills
C. ○ To improve existing skills
D. ○ To explore different careers
E. ○ To learn more about a specific career
F. ○ To better understand my academic classes
G. ○ To fulfill an elective

4. My career and technical education coursework provides me with: (Darken as many as apply)

A. ○ Real-world examples that help me better understand my academic classes
B. ○ Higher levels of math and/or science skills
C. ○ Higher levels of reading and writing skills
D. ○ The opportunity to be creative and innovative
E. ○ The ability to look at and solve complicated problems
F. ○ The opportunity to be a leader
G. ○ A chance to earn college credit, a certification, or a degree
H. ○ The chance to work as part of a team
I. ○ The opportunity to interact with employers and community leaders
J. ○ Skills to help me get a job in the future

5. If costs were not a factor, which categories of college would you like to attend? (Darken as many as apply)

A. ○ Private College/University B. ○ State College/University C. ○ Community/Junior College D. ○ Vocational/Technical School

6. Specialized schools and colleges offer degree programs in selected professional areas. Which categories of college would you like to attend? (Darken up to THREE)

A. ○ Architectural College
B. ○ Art/Design College
C. ○ Bible College
D. ○ School of Business
E. ○ School of Communications
F. ○ Culinary School
G. ○ School of Economics
H. ○ College of Education
I. ○ Engineering College
J. ○ Family and Consumer Sciences
K. ○ School of Forestry/Environmental Studies
L. ○ General/Liberal Arts College
M. ○ School of Journalism
N. ○ Law School
O. ○ College of Mathematics
P. ○ Medical School
Q. ○ Military Academy/College
R. ○ Music College/Conservatory
S. ○ Nursing College
T. ○ School of Psychology/Sociology
U. ○ College of Science
V. ○ Institute of Technology
W. ○ Theatre Arts College
X. ○ Other/Undecided

7. Have either of your parents attended college? A. ○ Yes B. ○ No

8. Please identify the types of high school courses you are currently taking. (Darken as many as apply)

A. ○ Advanced Placement (AP)
B. ○ International Baccalaureate (IB)
C. ○ Honors Programs
D. ○ Gifted/Accelerated Programs
E. ○ Other Advanced Programs
F. ○ College-Credit Courses
G. ○ General College Prep
H. ○ Career and Technical (CTE)

9. Which of the following VARSITY SPORTS are you most likely to participate in while attending college? (Darken as many as apply)

A. ○ Baseball
B. ○ Basketball
C. ○ Bowling
D. ○ Cheerleading/Dance Team
E. ○ Crew/Rowing
F. ○ Cross Country
G. ○ Cycling
H. ○ Field Hockey
I. ○ Football
J. ○ Golf
K. ○ Gymnastics
L. ○ Horsemanship
M. ○ Ice Hockey
N. ○ Lacrosse
O. ○ Rodeo
P. ○ Soccer
Q. ○ Softball
R. ○ Swimming/Diving
S. ○ Tennis
T. ○ Track & Field
U. ○ Volleyball
V. ○ Wrestling
W. ○ Other Athletics

10. Which of the following ACTIVITIES are you most likely to participate in while attending college? (Darken as many as apply)

A. ○ Academic/Honors Club
B. ○ Art/Design
C. ○ Band/Orchestra
D. ○ Business/Entrepreneur
E. ○ Choir
F. ○ Church/Religious
G. ○ Community Serv/Volunteer
H. ○ Debate/Forensics
I. ○ Drama/Theatre
J. ○ Environmental Club
K. ○ Fraternity/Sorority
L. ○ Hunting/Fishing
M. ○ Intramural/Club Sports
N. ○ Language Club
O. ○ Leadership
P. ○ Math/Science Club
Q. ○ Military/ROTC
R. ○ Newspaper/TV/Radio
S. ○ Outdoor Adventure/Rec
T. ○ Outdoor Winter Sports
U. ○ Peer Mentoring/Tutoring
V. ○ Student Government
W. ○ Study Abroad
X. ○ Writing/Publications

OVER PLEASE

ACTE-14

rests or future career path. (Darken TWO)

39. ○ Environmental Studies
40. ○ Equine Studies
41. ○ Fashion
42. ○ Foreign Language
43. ○ Forestry/Conservation
44. ○ Game Design and Developer
45. ○ Golf Course Design/Management
46. ○ Graphic Arts/Design
47. ○ History/Archaeology
48. ○ Hospitality/Resort Management
49. ○ Interior Design
50. ○ Journalism
51. ○ Manufacturing/Welding
52. ○ Marine Biology
53. ○ Mathematics/Statistics
54. ○ Medical Science
55. ○ Medical Technology
56. ○ Military Science
57. ○ Music
58. ○ Nursing/Health Care
59. ○ Pharmacy
60. ○ Philosophy
61. ○ Photography/Video/Film
62. ○ Physical Education/Recreation
63. ○ Physical Therapy
64. ○ Physics
65. ○ Politics/Government Science
66. ○ Psychology/Psychiatry
67. ○ Religion/Ministry/Theology
68. ○ Science
69. ○ Social Work/Human Services
70. ○ Software Developer
71. ○ Sports Management
72. ○ Sports Medicine
73. ○ Teaching/Education
74. ○ Travel/Tourism
75. ○ Veterinary Medicine
76. ○ Undecided/Other

are looking for in your ideal college. (Darken as many as apply)

○ Ethnically diverse
○ Ethnically similar
○ Historically black
○ Tribal
K. ○ Major sports program
L. ○ Dormitories available
M. ○ Close to home
N. ○ Far from home

llege, which TWO would you choose? (Darken up to TWO)

urch of God
sciples of Christ
iscopal
angelical
ends/Quaker
P. ○ Jewish
Q. ○ L.D.S./Mormon
R. ○ Lutheran
S. ○ Mennonite
T. ○ Methodist
U. ○ Nazarene
V. ○ Presbyterian
W. ○ Nondenominational
X. ○ Other Christian Denomination
Y. ○ None of the above

ampus? (Darken ONE)

drugs on or off campus.
campus.

military options? (Darken as many as apply)

A. ○ Enlist after high school
B. ○ College-Based ROTC
C. ○ Military Academy/College
D. ○ Military Reserves
E. ○ National Guard
F. ○ Other military plans
G. ○ No military interest

Part II: Which military service would you prefer? (Darken as many as apply)

A. ○ Air Force B. ○ Army C. ○ Coast Guard D. ○ Marines E. ○ Navy

16. Scholarship, grant, loan, and incentive programs are available to students based upon specific racial or ethnic backgrounds. Indicate your background by selecting from the categories below. (Darken as many as apply)

A. ○ American Indian/Alaskan Native
B. ○ Asian/Asian-American/Pacific Islander
C. ○ Black/African-American
D. ○ Latino/Hispanic/Chicano
E. ○ Middle Eastern
F. ○ White/Caucasian
G. ○ Other
H. ○ Prefer not to respond

17. Which of the following types of information and materials would you like to receive to help you prepare for your future? (Darken as many as apply)

A. ○ College/Career Information B. ○ Financial Aid/Student Loans C. ○ Mentoring/Motivational Programs D. ○ Study Skills E. ○ Test Prep F. ○ Tutoring

18. What are the top three states in which you would consider attending college?
(Use two letter state abbreviations)

1. ___ 2. ___ 3. ___

19. If you could attend college today, which would be your top choices? (List up to FIVE)
Spell out full college name and the abbreviation of the state in which it is located. (Abbreviate the word University-UNIV)

		State	Have you visited this college?
1.			Yes ☐
2.			Yes ☐
3.			Yes ☐
4.			Yes ☐
5.			Yes ☐

20. Please email me a report that will show how colleges and universities match my profile on MyCollegeOptions.org.

Email Address _____

Dear Student: We've entrusted My College Options®, a service operated by the National Research Center for College & University Admissions™, to manage the research findings due to their many years of dedication to higher education. The most important benefit of participating in this voluntary survey and research project is the information you and your family will receive from colleges and universities. In some cases, you and your family may also receive information about educational products & services such as student loans and financial aid, college admissions and tutorial services, extra-curricular enrichment and recognition programs, career, employment and military opportunities, and camps, provided by non-profit organizations, companies offering educational products & services, and government agencies. My College Options does not share your information with commercial marketers offering to sell you non-education-related products and services.

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Career & Technical Educator Questionnaire

Complete and return with students' surveys.

Please send me:

- ○ Additional planning profiles for my students: _____ (number)
- ○ Information about the Association for Career and Technical Education (ACTE)
- ○ An emailed copy of my personalized report of student responses for my school
  *Please provide your email address in the update information section to receive your report.

Please provide any updates to the information below:

Name: [FName] [LName]

Position/Title: [Title]

School: [HS_Name]

Street Address: [Address]

City: [City] State: [State] Zip: [Zip]

School Phone Number: ( ) [Phone]

Email: [EMail]
(*required to receive report)

Estimated school start date in Fall, 2014: _____

[EVID]

Comments: _____

Your responses to these questions will be used for research purposes only. Your contact information will not be associated with your questionnaire in any way. Thank you.

1. **This semester I have been assigned to teach the following number of students: (Darken ONE)**
   A. ○ 1-50 B. ○ 51-100 C. ○ 101-150 D. ○ 151+

2. **How long have you been teaching? (Darken ONE)**
   A. ○ 0-5 years C. ○ 11-15 years E. ○ 21-25 years G. ○ 31+ years
   B. ○ 6-10 years D. ○ 16-20 years F. ○ 26-30 years

3. **If your CTE program received an increase in federal funding, how would you choose to spend the money? (Darken top THREE)**
   A. ○ New equipment for CTE classrooms
   B. ○ New curriculum materials for CTE classrooms
   C. ○ Additional courses in existing CTE programs
   D. ○ Creation of new CTE programs in your school
   E. ○ Professional development to increase your technical skills
   F. ○ Professional development to improve your pedagogical skills
   G. ○ Increased access for students to career guidance and exploration activities
   H. ○ Enrichment opportunities for students (career and technical student organizations, work-based learning activities, development of secondary-postsecondary articulation agreements, etc.)

4. **What federal sources do you rely on to support your program? (Darken as many as apply)**
   A. ○ Carl D. Perkins Career and Technical Education Act
   B. ○ Individuals with Disabilities Education Act
   C. ○ Other formula funds
   D. ○ Other competitive funds won by your school/district

5. **Are you a member of ACTE? (Darken ONE)**
   A. ○ Yes B. ○ No, but I am aware of the organization. C. ○ No, I am not aware of the organization.

6. **What is your view of ACTE? (Darken as many as apply)**
   A. ○ It provides advocacy for CTE education policy and funding.
   B. ○ It provides professional development for CTE educators.
   C. ○ It provides resources for CTE programs.
   D. ○ It generates public awareness for CTE and the need for a skilled and professional workforce.
   E. ○ I am not aware of ACTE.

7. **Describe the level of integration between career and technical classes and core subject classes in your school/district. (Darken ONE)**
   A. ○ Systemic/Formal - School-wide integration
   B. ○ Informal - I include core subject concepts in my class.
   C. ○ None

8. **In what type(s) of career and technical education professional development have you participated in within the last 12 months? (Darken as many as apply)**
   A. ○ Academic and CTE integration
   B. ○ Analysis and uses of assessments and data
   C. ○ Course content and knowledge
   D. ○ CTE linkages to state content standards
   E. ○ Differentiated instruction/special population
   F. ○ Education and pedagogical skills
   G. ○ Improving parental/community involvement
   H. ○ Non-traditional fields
   I. ○ Research based effective teaching practices
   J. ○ Staying current with industry methods and needs

9. **How do you work with business and industry leaders in your program? (Darken as many as apply)**
   A. ○ I don't work with them.
   B. ○ They serve on a program advisory committee.
   C. ○ They have validated my course/program standards and curriculum.
   D. ○ They visit my classroom to speak to students.
   E. ○ They provide job shadowing experiences for my students.
   F. ○ They provide internships to my students.
   G. ○ They donate equipment and/or supplies for my program.

10. **Has funding specifically for your program changed in recent years? (Darken ONE)**
    A. ○ Yes, it has gone up. B. ○ Yes, it has gone down. C. ○ No, it has been stable.

11. **How would you rate the image of career and technical education at your school? (Darken ONE)**
    A. ○ Generally positive C. ○ Somewhat negative
    B. ○ Somewhat positive D. ○ Generally negative

12. **How would you rate the equipment and resources available to you in your career and technical education classes? (Darken ONE)**
    A. ○ Very good B. ○ Good C. ○ Average D. ○ Poor E. ○ Very poor

EQACTE

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Research for the Future

Prepared by the National Research Center for College & University Admissions™ (NRCCUA®), a non-profit educational research organization. NRCCUA operates the nation's largest college and career planning program, My College Options®.

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