CTE Works!
2014 Results from a National Survey
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.
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.
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.

**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.

**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
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.

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

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

**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.

**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).

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**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
Career and Technical Planning Profile

Please print clearly with a No. 2 pencil or black ink only. Circle all incorrect responses.

First Name: 
Last Name: 
Home Address: 
City: 
State: Zip: 
Phone: 
Cell: 
Your High School Name: 
Graduation Year: 
What is your grade average? 
A.0-1.0 
B.1.0-1.5 
C.1.5-2.0 
D.2.0-2.5 
E.2.5-3.0 
F.3.0-3.5 
G.3.5-4.0 
H.4.0-5.0 
I.5.0-6.0 
J.6.0-7.0

YOUR ACTIVITIES AND POST-SECONDARY PLANS

1. What are your college/career plans within one year after graduation? (Darken as many as apply)
   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 military
   F. Enter the workforce (I have a job lined up)
   G. I will not graduate

2. Are you planning to pursue a career related to one of the career areas you are studying? (Darken as many as apply)
   A. Yes
   B. No
   C. Don' t know

3. Why are you taking career and technical education courses? (Darken as many as apply)
   A. To prepare for the work force after high school
   B. To improve existing skills
   C. To learn more about a specific career
   D. To explore different careers
   E. To better understand my academic classes

4. My career and technical education coursework provides me with:
   (Darken as many as apply)
   A. Real-world examples that help me better understand
   B. The opportunity to be creative and innovative
   C. The ability to look at and solve complicated problems
   D. The opportunity to interact with employers and community leaders
   E. Higher levels of reading and writing skills
   F. A chance to earn college credit, an accreditation, or a degree
   G. 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
   B. State College
   C. Community 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. Commercial/Architectural
   B. Business/Office College
   C. Fine and Visual Arts
   D. Liberal Arts
   E. Agricultural/Environmental
   F. Culinary Arts
   G. Medical
   H. Engineering
   I. College of Science
   J. School of Business
   K. School of Communications
   L. School of Education
   M. School of Fine and Performing Arts
   N. School of Health and Human Services
   O. School of Libraries and Information Science
   P. School of Natural Resources
   Q. School of Nursing
   R. School of Social Work

7. Have either of your parents attended college? 
   A. Yes
   B. No
   C. Don’t know

8. Please identify the types of high school courses you are currently taking. (Darken as many as apply)
   A. Advanced Placement (AP)
   B. Honors Courses
   C. International Baccalaureate (IB)
   D. Gifted/Accelerated Programs
   E. Other Advanced/Prep Courses
   F. College Credit Courses
   G. Career and Technical (GTE)

9. Which of the following VARIOUS SPORTS are you most likely to participate in while attending college? (Darken as many as apply)
   A. Basketball
   B. Tennis
   C. Football
   D. Soccer
   E. Swimming
   F. Track
   G. Boxing
   H. Wrestling
   I. Cross Country
   J. Golf
   K. Golf
   L. Rowing
   M. Sailing
   N. Sailing
   O. Water Polo
   P. Swimming
   Q. Water Polo
   R. Water Polo
   S. Water Polo
   T. Water Polo
   U. Water Polo

10. Which of the following ACTIVITIES are you most likely to participate in while attending college? (Darken as many as apply)
    A. Academic Honors Clubs
    B. Church/Religious Society
    C. Business/Entrepreneur
    D. Religious/Greek
    E. Business/Entrepreneur
    F. leadership
    G. Environmental Club
    H. Skiing
    I. Snowboarding
    J. Snowboarding
    K. Snowboarding
    L. Snowboarding
    M. Snowboarding
    N. Snowboarding
    O. Snowboarding
    P. Snowboarding
    Q. Snowboarding
    R. Snowboarding
    S. Snowboarding
    T. Snowboarding
    U. Snowboarding
    V. Snowboarding
    W. Snowboarding
    X. Snowboarding
    Y. Snowboarding
    Z. Snowboarding

11. Are you looking for your ideal college? (Darken as many as apply)
    A. Yes
    B. No
    C. Don’t know

12. Are you looking for a college that is close to home? (Darken as many as apply)
    A. Yes
    B. No
    C. Don’t know

13. Are you looking for a college that is far from home? (Darken as many as apply)
    A. Yes
    B. No
    C. Don’t know

14. Which of the following VARIOUS SPORTS are you most likely to participate in while attending college? (Darken as many as apply)
    A. Basketball
    B. Tennis
    C. Football
    D. Soccer
    E. Swimming
    F. Track
    G. Boxing
    H. Wrestling
    I. Cross Country
    J. Golf
    K. Golf
    L. Rowing
    M. Sailing
    N. Sailing
    O. Water Polo
    P. Swimming
    Q. Water Polo
    R. Water Polo
    S. Water Polo
    T. Water Polo
    U. Water Polo
    V. Water Polo
    W. Water Polo
    X. Water Polo
    Y. Water Polo
    Z. Water Polo

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    Q. Snowboarding
    R. Snowboarding
    S. Snowboarding
    T. Snowboarding
    U. Snowboarding
    V. Snowboarding
    W. Snowboarding
    X. Snowboarding
    Y. Snowboarding
    Z. Snowboarding

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/Alaska Native
    B. Black/African American
    C. Asian
    D. Hispanic/Latino
    E. Native Hawaiian/Pacific Islander
    F. Other

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/Loan
    C. Mentoring/Illustrative Programs
    D. Study Skills
    E. Test Prep
    F. Tutoring

18. What are the top three states in which you would consider attending college? (Do not use state abbreviations)
    A. Texas
    B. California
    C. New York
    D. Florida
    E. Florida
    F. Florida
    G. Florida
    H. Florida
    I. Florida
    J. Florida

19. If you could attend college today, which would be your top choice? (List up to FIVE)
    A. University of Texas
    B. University of California
    C. Harvard University
    D. Stanford University
    E. Yale University
    F. Princeton University
    G. Massachusetts Institute of Technology
    H. California Institute of Technology
    I. New York University
    J. Columbia University

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

Dear Student:
We have identified My College Options, a service operated by the National Research Center for College and University Admissions, to manage the research findings due to their many years of dedication to higher education. To make it the most important benefit of participating in this voluntary survey and research project to the information you provide and your future will be fulfilled through 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, extracurricular 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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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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