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.

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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% Doctor/Physician
- 10% Medical Science
- 6% Criminal Justice/Law Enforcement
- 5% Physical Therapy
- 5% Child care/Development
- 4% Business Owner/Entrepreneur
- 4% Medical Technology
- 4% Sports Medicine
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.

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**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

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**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.

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

<table>
<thead>
<tr>
<th>CTE Educator Findings</th>
<th>86%</th>
<th>67%</th>
<th>52%</th>
<th>41%</th>
<th>40%</th>
<th>38%</th>
</tr>
</thead>
<tbody>
<tr>
<td>The majority of CTE educators report that business and industry leaders serve on advisory committees and interact with students.</td>
<td>61%</td>
<td>61%</td>
<td>39%</td>
<td>33%</td>
<td>34%</td>
<td>24%</td>
</tr>
<tr>
<td>95% of CTE educators report integration between CTE and academics in their classroom and/or school.</td>
<td>58%</td>
<td>61%</td>
<td>39%</td>
<td>33%</td>
<td>34%</td>
<td>24%</td>
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**Business and Industry Involvement**

<table>
<thead>
<tr>
<th>ACTE Members</th>
<th>Non-members</th>
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<tbody>
<tr>
<td>86% Serving on program advisory committees</td>
<td>58%</td>
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<tr>
<td>67% Visiting the classroom to speak to students</td>
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</tr>
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<td>52% Offering job shadowing to students</td>
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<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.
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
- 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%
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

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.

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APPENDICES