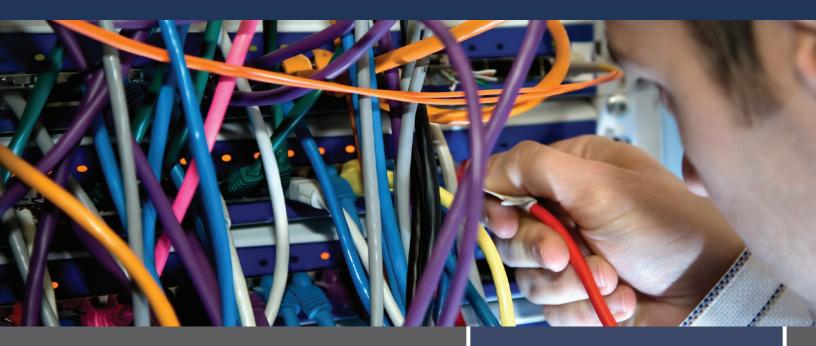




CTE Works!

2014 Results from a National Survey

my College Options®





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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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.



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.

Association for Career and Technical Education

ACTE

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

1 2% 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.

Association for Career and Technical Education

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

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

FUNDING

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.



RESOURCES/EQUIPMENT QUALITY:

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

20% 37% Good Good

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:

Carl D. Perkins Career and Technical Education Act
Individuals with Disabilities Education Act
Other formula funds
Competitive funds won by school/district

CURRENT PROFESSIONAL DEVELOPMENT FOCUS:

55.8% Course content and knowledge

Academic and CTE integration 55.3%

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 Respondents5	1,501
Gender	
Male	53.0%
Female	47.0%
Ethnicity	
American Indian	2.0%
Asian	
African-American	
Hispanic	
Middle Eastern	
White	
Other/Multiracial	
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%
В	53.5%
C1	3.5%
LC	.1.2%
Educators	
# of Educator Respondents	903
Community	
- Rural	51.7%
Suburban	/ -
Urban	
School Type	
Public	00 20/
Private	
1 11vatc	/0

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 Plant ALL ITEMS IN BOX ARE REQUIRED FOR PROCESSING. PLEASE PRINT CLEARLY WITH A NO. 2 PENGIL OR BLACK OR BLUE INK ONLY! COMPLE		
First Last Name Name		
Home Address		
City	State Zip	
Preferred Email		
Your High School Name Birth Date Gender High Scho	ool Graduation Year What is your grade average? Scale:	
	O 2016 O 2018 O A+ O B+ O C+ A=4, B=3,	
Home Cell Phone		
Parent First Name	Parent Last Name	
YOUR ACTIVITIES AND PO		
What are your college/career plans within one year after graduation? A. O Attend a 4-year college or university B. O Attend a community college E. O Enter the workforce (I have secure)	fication G. O Enter the military	
C. Attend a vocational/technical school F. Enter the workforce (I will be look Are you planning to pursue a career related to one of the career areas	ing for a job.)	
A. O Yes B. O No C. O I don't know. 3. Why are you taking career and technical education courses? (Darken		
A. O To prepare for life after high school C. O To improve existing skills E.	○ To learn more about a specific career ○ To better understand my academic classes	rests or future career path. (Darken TWO) 39. O Environmental Studies 58. O Nursing/Health Care
A. O Real-world examples that help me better understand my academic classes B. O Higher levels of math and/or science skills F. O The opportunity to	be creative and innovative H. O The chance to work as part of a team at and solve complicated problems I. O The opportunity to interact with employers	33. Carmonimental studies 36. Nuising-realint cate
5. If costs were not a factor, which categories of college would you like	to attend? (Darken as many as apply)	44. ○ Game Design and Developer 63. ○ Physical Therapy 45. ○ Golf Course Design/Management 64. ○ Physics
6. Specialized schools and colleges offer degree programs in selected pr	, , , , , , , , , , , , , , , , , , , ,	46. Graphic Arts/Design 65. O Politics/Government Science 47. O History/Archaeology 66. O Psychology/Psychiatry 48. O Hospitality/Resort Management 67. O Religion/Ministry/Theology
(Darken up to THREE) A. Architectural College G. School of Economics	M. O School of Journalism S. O Nursing College	49. ○ Interior Design 68. ○ Science 50. ○ Journalism 69. ○ Social Work/Human Services
B. O Art/Design College H. O College of Education C. O Bible College I. O Engineering College D. O School of Business J. O Family and Consumer Sciences	N. O Law School T. O School of Psychology/Sociology O. O College of Mathematics U. O College of Science P. O Medical School V. O Institute of Technology	51. O Manufacturing/Welding 70. O Software Developer 72. O Marine Biology 71. O Sports Management 73. O Software Developer 73. O Software Developer 74. O Sports Management 75. O Software Developer
E. O School of Communications F. O Culinary School K. O School of Forestry/Environmental Studies L. O General/Liberal Arts College	C. O Military Academy/College R. O Music College/Conservatory X. O Other/Undecided	53. Mathematics/Statistics 72. Sports Medicine 54. Medical Science 73. Teaching/Education 55. Medical Technology 74. Tavel/Tourism
7. Have either of your parents attended college? A. O Yes B. O No		56. ○ Military Science 75. ○ Veterinary Medicine 76. ○ Undecided/Other
	ing. (Darken as many as apply) E. ○ Other Advanced Programs F. ○ College-Credit Courses H. ○ Career and Technical (CTE)	are looking for in your ideal college. (Darken as many as apply) . ○ Ethnically diverse K. ○ Major sports program
Which of the following VARSITY SPORTS are you most likely to partic	50 S 05 S	. C Ethnically similar L. C Dormitories available Historically black M. C Close to home
	M. ○ Ice Hockey Q. ○ Softball U. ○ Volleyball N. ○ Lacrosse R. ○ Swimming/Diving V. ○ Wrestling	○ Tribal N. ○ Far from home llege, which TWO would you choose? (Darken up to TWO)
C. O Bowling D. O Cheerleading/Dance Team C. O Cycling H. O Field Hockey L. O Horsemanship	O. O Rodeo S. O Tennis W. O Other Athletics P. O Soccer T. O Track & Field	urch of God P. O Jewish U. O Nazarene sciples of Christ Q. O L.D.S./Mormon V. O Presbyterian Isocopal R. O Lutheran W. O Nondenominational
 Which of the following ACTIVITIES are you most likely to participate in A. O Academic/Honors Club F. O Church/Religious K. O Free 	aternity/Sorority P. O Math/Science Club U. O Peer Mentoring/Tutoring	angelical S. O Mennonite X. O Other Christian Denomination ends/Quaker T. O Methodist Y. O None of the above
C. O Band/Orchestra H. O Debate/Forensics M. O Int	Intling/Fishing Q. O Military/ROTC V. O Student Government ramural/Club Sports R. O Newspaper/TV/Radio W. O Study Abroad X. O Writing/Publications	ampus? (Darken ONE)
E. O Choir J. O Environmental Club O. O Le		drugs on or off campus. campus.
	ACTE-14	military options? (Darken as many as apply)
	B. College-Based ROTC D. Military Reserves F.	O National Guard G. O No military interest O Other military plans
	Part II: Which military service would you prefer? (Darken as many a A. ○ Air Force B. ○ Army C. ○ Coast Guard	as apply) D. O Marines E. O Navy
	16. Scholarship, grant, loan, and incentive programs are available to st Indicate your background by selecting from the categories below.	
	A. O American Indian/Alaskan Native C. O Black/African-American B. Asian/Asian-American/Pacific Islander D. O Latino/Hispanic/Chicano	E. O Middle Eastern G. O Other F. O White/Caucasian H. O 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. O College/Career Information B. O Financial Aid/Student Loans C. O M What are the top three states in which you would consider attendin	
	(Use two letter state abbreviations) 19. If you could attend college today, which would be your top choices	1. 2. 3. Have you
	Spell out full college name and the abbreviation of the state in which it is located. (Abbrevi	ate the word University-UNIV) State college?
	1.	Yes _
	2.	Yes Yes
	3.	Yes
	5.	Yes _
	20. Please email me a report that will show how colleges and universitie	a match my profile on MyCollegeOptions.org.
	Email Address Address	
	years of dedication to higher education. The most important benefit of participating in this volur	th Center for College & University Admissions™. to manage the research findings due to their many itany survey and research project is the information you and your family will receive from colleges itional products & services such as student loans and financial aid, college admissions and tutorial
	products & services, and government agencies. My College Options does not share your inform	ry opportunities, and camps, provided by non-profit organizations, companies offering educational nation with commercial marketers offering to sell you non-education-related products and services.



Educator Questionnaire Career & Technica

Complete and return with students' surveys.

Please send me:

Additional planning profiles for my students: (number)	learning activities, development of secondary-postsecondary articulation agreements, etc.)
	4. What federal sources do you rely on to support your program? (Darken as many
O Information about the Association for Career and Technical Education (ACTE)	 A. O Carl D. Perkins Career and Technical Education Act B. O Individuals with Disabilities Education Act C. O Other formula funds
 An emailed copy of my personalized report of student responses 	
	 Are you a member of ACTE? (Darken ONE) A. O Yes B. O No, but I am aware of the organization. C. O No, I am not aware of the organization.
section to receive your report.	6. What is your view of ACTE? (Darken as many as apply)
Diogga provide any undates to the information below:	 A. O It provides advocacy for CTE education policy and funding. B. O It provides professional development for CTE educators.
Flease provide any updates to the information below.	
Name: _[FName] [LName]	
Position/Title: [Title]	7. Describe the level of integration between career and technical classes and core
	A. O Systemic/Formal - School-wide integration
SCIDOI. II ISLINGITIE	B. O Informal - I include core subject concepts in my class.C. O None
Street Address: _[Address]	8. In what type(s) of career and technical education professional development
City: [City] State: [State] Zip: [Zip]	A Academic and CTE integration A Academic and CTE integration
School Phone Number: _() [Phone]	On the link range to state content standards On the link range to state content standards
Email: _[EMail]	E. O Education and pedagogical skills
(*required to receive report) Estimated school start date in Fall, 2014:	
	 I. O Research based effective teaching practices J. O Staying current with industry methods and needs
[EVID]	How do you work with business and industry leaders in your program? (Darken as many as apply)
Comments:	C. O They have validated my course/program standards and curriculum.
	E. O They provide internships to my students. F. O They provide internships to my students.
Your responses to these questions will be used for research purposes only. Your contact information	G. O They donate equipment and/or supplies for my program. 10 Has funding specifically for your program changed in recent years? (Darken ONE)
gned to teach the following number of	11. How would you rate the image of career and technical education at
A. O 1-50 B. O 51-100 C. O 101-150 D. O 151+	A. O Generally positive C. O Somewhat negative

If your CTE program received an increase in federal funding, how would you choose to spend the money? (Darken top THREE)

- A. O New equipment for CTE classrooms

 B. O New curriculum materials for CTE classrooms

 C. O Additional courses in existing CTE programs

 D. O Creation of new CTE programs in your school

 E. O Professional development to increase your technical skills

 F. O Professional development to improve your pedagogical skills

 G. O Increased access for students to career guidance and exploration activities

 H. O Enrichment opportunities for students (career and technical student organizations, work-based

do you rely on to support your program? (Darken as many as apply)

- reer and Technical Education Act
- abilities Education Act
- unds won by your school/district

ACTE? (Darken ONE)

but I am aware of the organization. $\,\,\,$ C. $\,\,\,$ O $\,\,$ No, I am not aware of the organization.

- CTE? (Darken as many as apply)
- y for CTE education policy and funding.
- s for CTE programs. onal development for CTE educators.
- awareness for CTE and the need for a skilled and professional workforce.
- ır school/district. (Darken ONE) ntegration between career and technical classes and core
- core subject concepts in my class. School-wide integration

- er and technical education professional development in within the last 12 months? (Darken as many as apply)
- of assessments and data
- knowledge
- ite content standards
- agogical skills ction/special population
- community involvement
- fective teaching practices
- industry methods and needs

business and industry leaders in your program?

- ogram advisory committee
- d my course/program standards and curriculum.
- room to speak to students.
- adowing experiences for my students
- ships to my students.
- nent and/or supplies for my program.

lly for your program changed in recent years? (Darken ONE) B. O Yes, it has gone down. C. O No, it has been stable

- 12. How would you rate the equipment and resources available to you in your B. O Somewhat positive C. O Somewhat negative D. O Generally negative

career and technical education classes? (Darken ONE)

Ņ

A. O 0-5 years C. O 11-15 years B. O 6-10 years D. O 16-20 years

E. O 21-25 years F. O 26-30 years

G. O 31+ years

A. O Very good

B. O Good

C. O Average

D. O Poor

How long have you been teaching? (Darken ONE)

E. O 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®.