

NICE Webinar Series

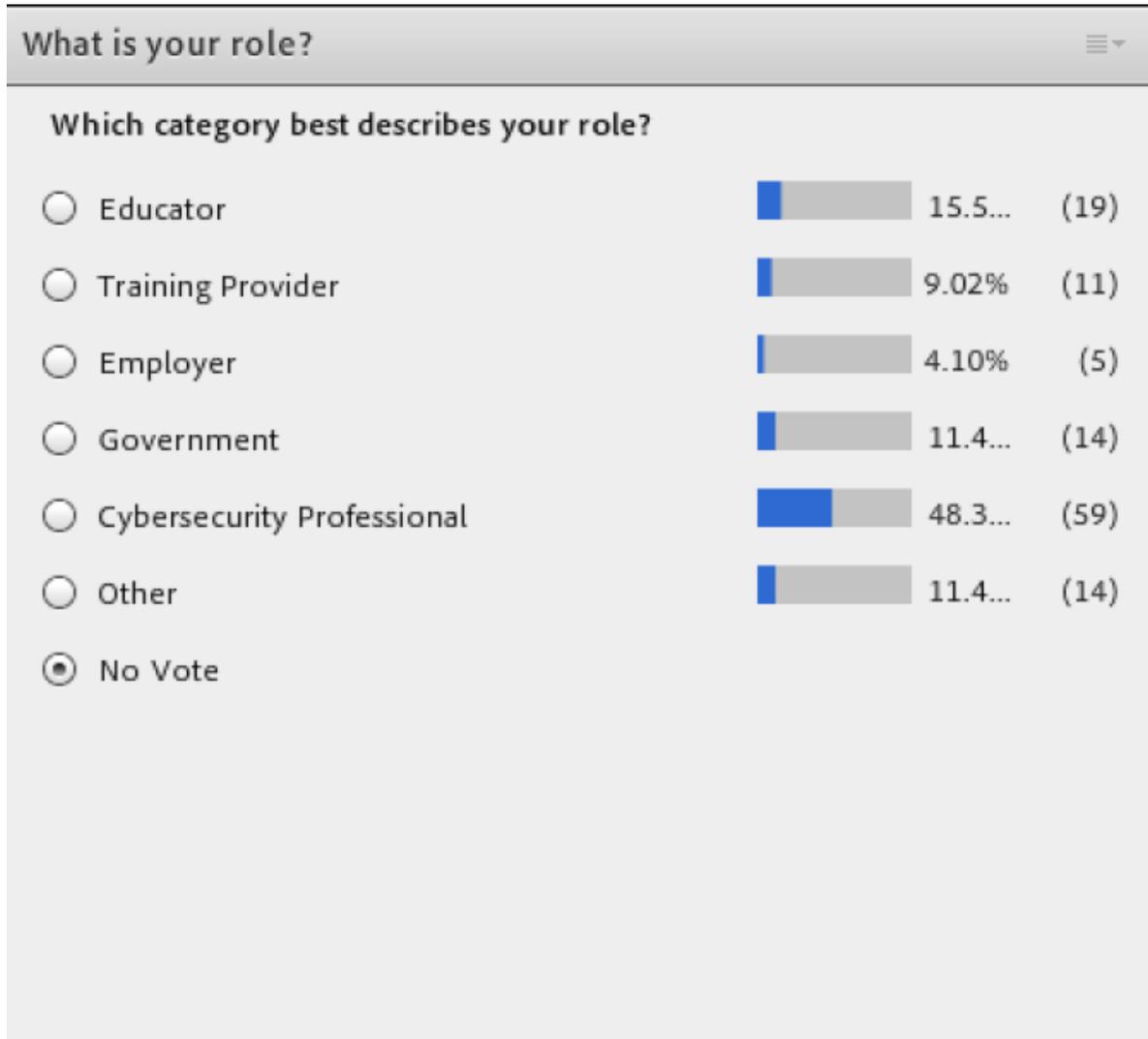
NATIONAL INITIATIVE FOR CYBERSECURITY EDUCATION



Development of Soft Skills That Are In Demand by Cybersecurity Employers

February 21, 2018

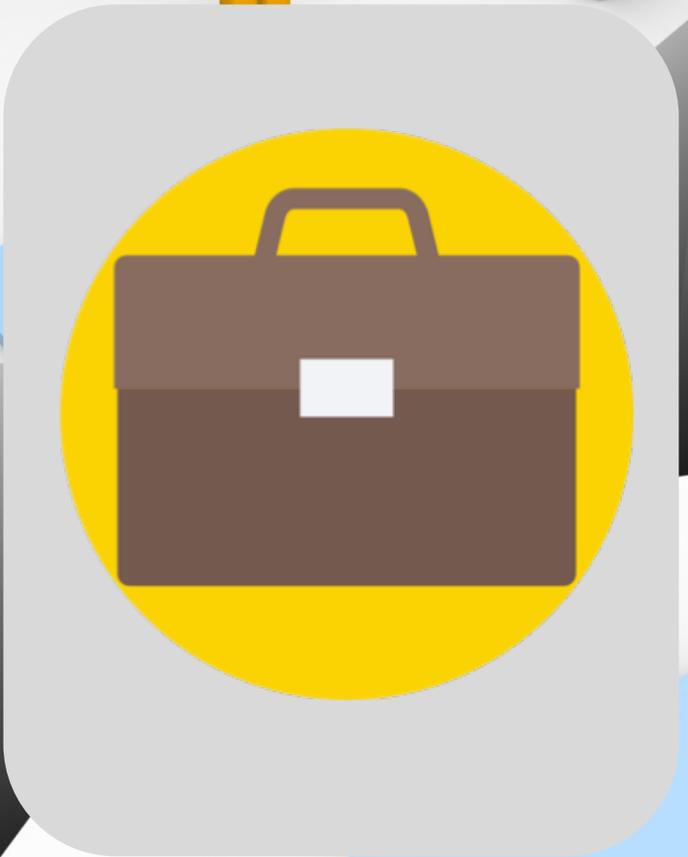
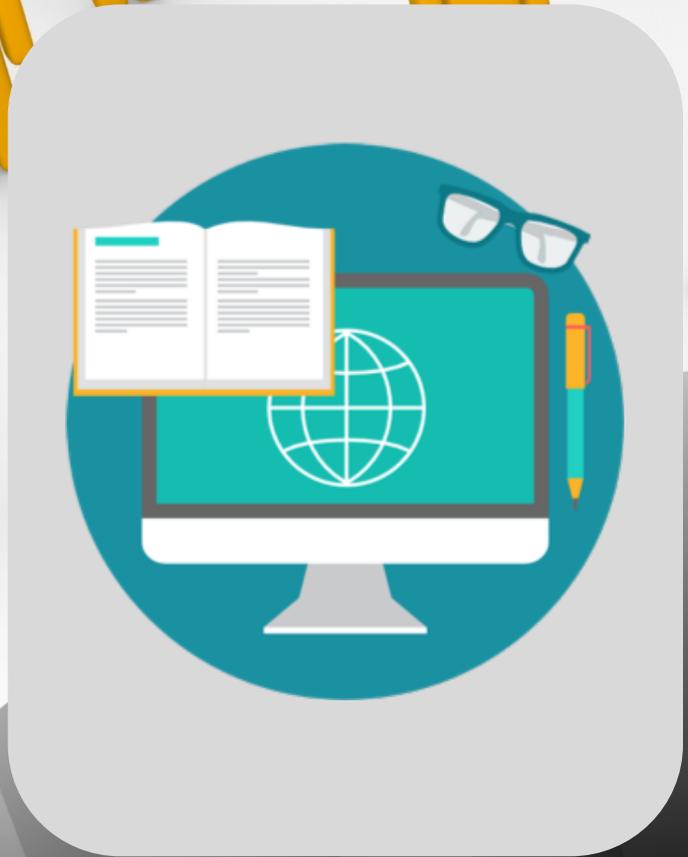
Poll



The Growing Skills Gap in Cybersecurity

Travis Smith, Principal Security Researcher, Tripwire



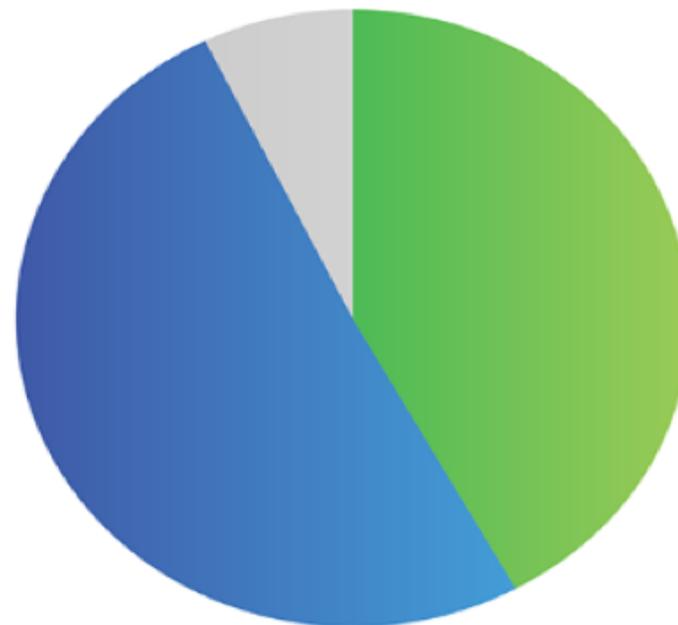


A Growing Need for Cybersecurity Talent

93% are concerned about the security “skills gap”

Some experts are predicting a “skills gap” in security organizations where it will become increasingly difficult to staff a security team with required skills and expertise.

In your opinion, is this likely to be a problem?



42% / Yes, we are already facing a skills gap with our security needs

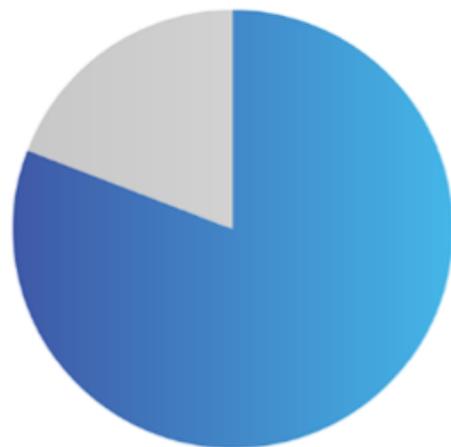
51% / Yes, we are OK for now, but we can see it coming

7% / No, this will not be a problem

A Growing Need for Cybersecurity Talent

Needed security skills have changed in the past years

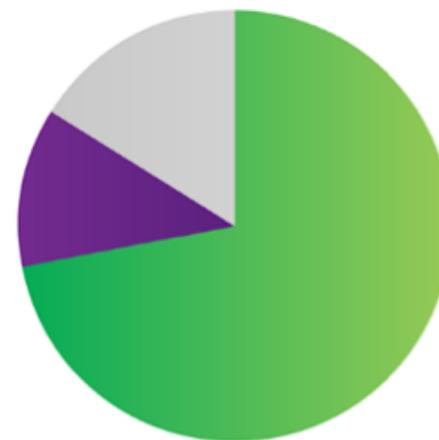
In your opinion, have the skills required to be a great security professional changed in the past few years?



81% / Yes 19% / No

Almost 3 in 4 say it is harder to hire skilled security staff

How has the ability to hire skilled security professionals changed in the past two years?



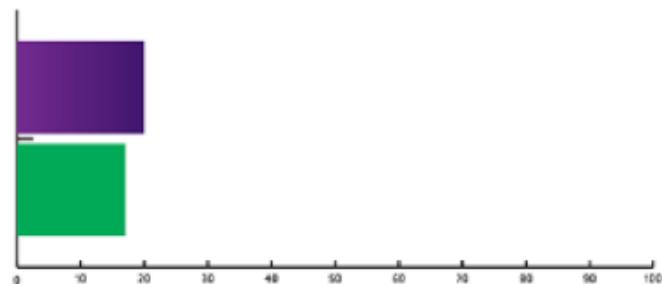
72% / It is harder 12% / It is easier 16% / It hasn't changed

How Are Security Teams Adapting?

In what ways has your company's security team evolved in the **past two years**?

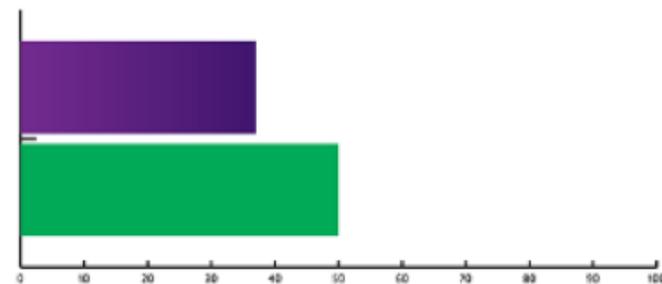
In what ways do you expect your company's security team to evolve in the **next two years**?

We have hired people with expertise that was not security specific



20% / Past two years
17% / Next two years

We have invested heavily in training our existing staff



37% / Past two years
50% / Next two years

How Are Security Teams Adapting?



91%

plan to supplement their team by **outsourcing for skills**

88%

believe **managed services** would add value to solving the skills gap problem



98%

expect other functions like **non-security teams** to be more involved in cybersecurity moving forward

96%

believe that **automation** will play a role in solving the skills gap in the future.

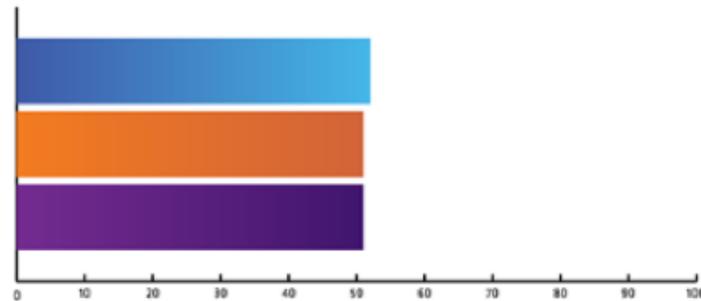


Need for Technical Skills

79%

believe the **need for technical skills** among security staff has increased over the past two years.

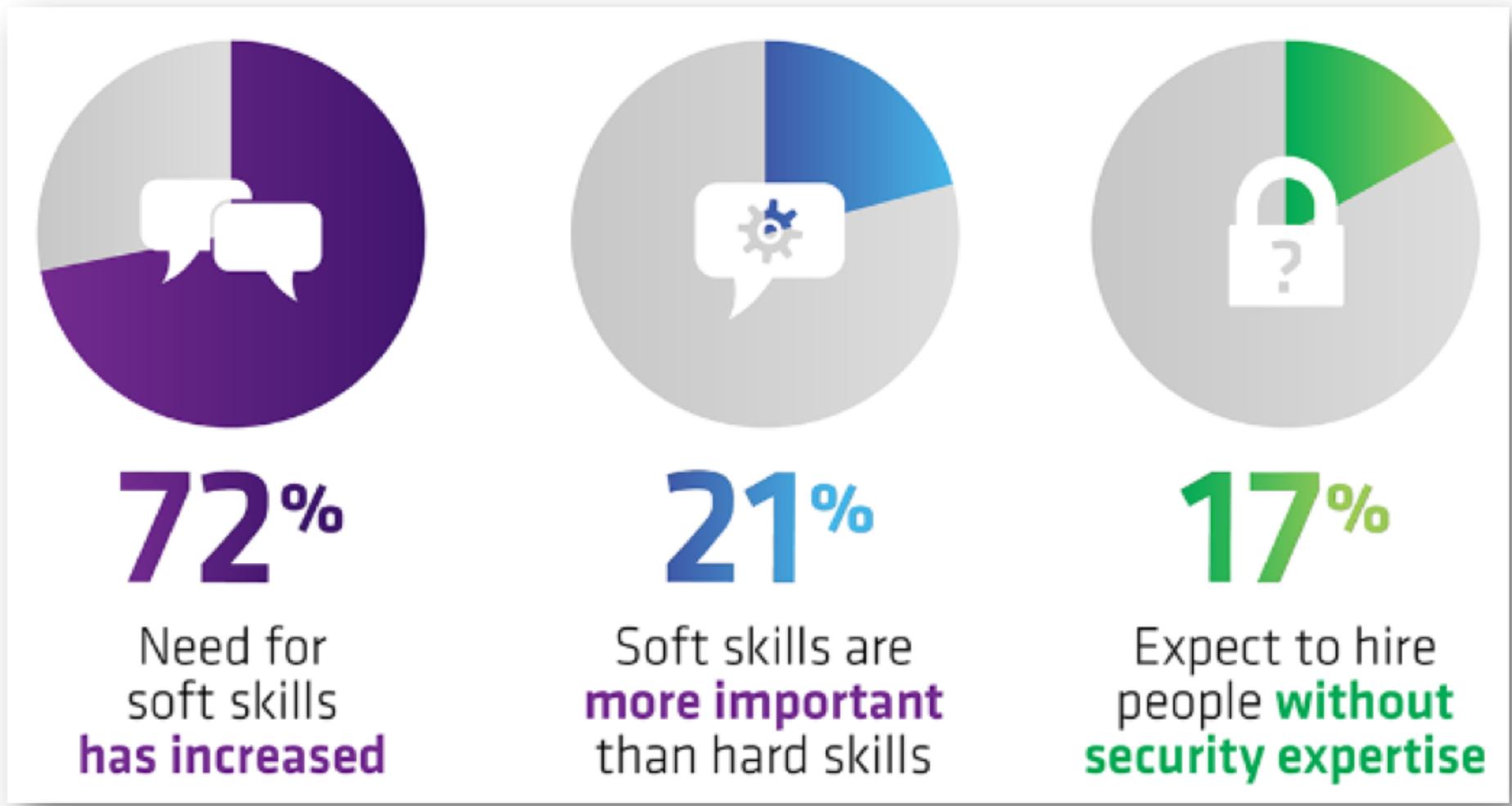
Top 3 Tech Skills



- 52% / Network Monitoring
- 51% / IT Fundamentals
- 51% / Vulnerability Management

“When you hire for your security team, which technical skills are most important?”

The Rise of Soft Skills



Q & A

Employability Skills Framework

ROBIN UTZ

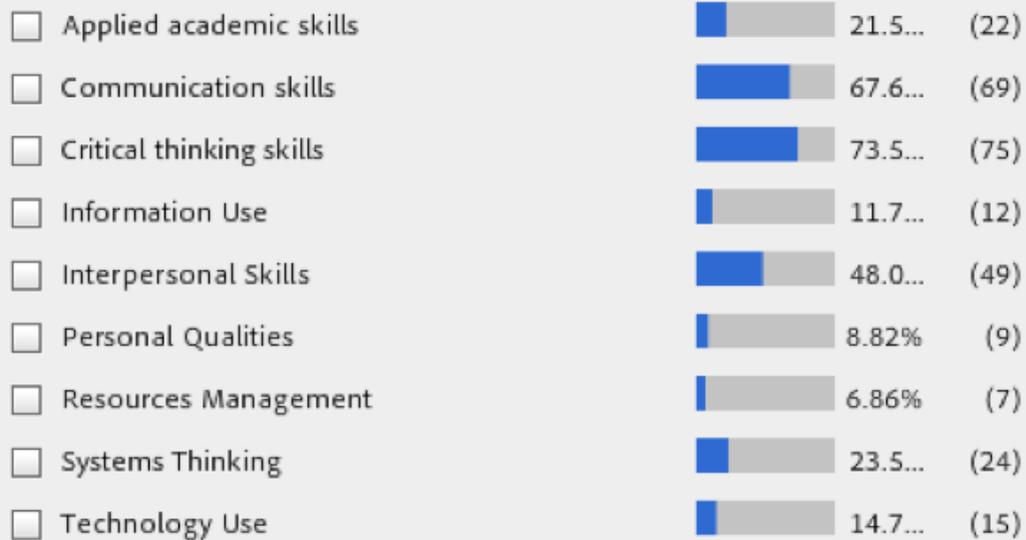
CHIEF, COLLEGE AND CAREER TRANSITIONS BRANCH
DIVISION OF ACADEMIC AND TECHNICAL EDUCATION
OFFICE OF CAREER, TECHNICAL, AND ADULT EDUCATION (OCTAE)
U.S. DEPARTMENT OF EDUCATION

Poll



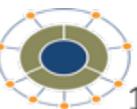
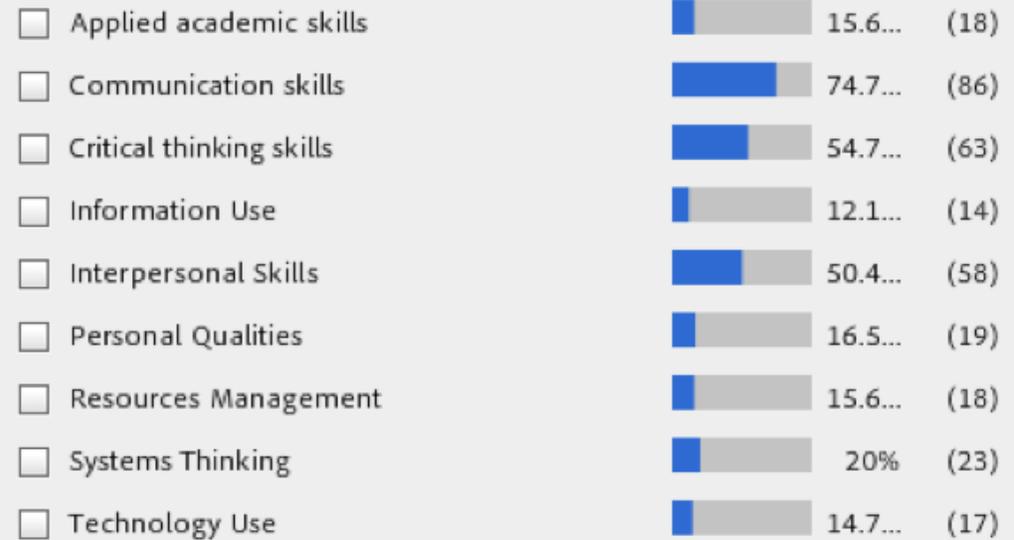
For Educators and Training Providers:

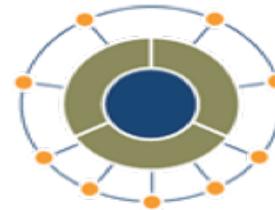
What do you feel are the top 3 soft skills students should learn before entering the cybersecurity workforce?



For Employers:

What top 3 soft skills do you feel are lacking in cybersecurity professionals within your workforce?





Difficulty filling jobs that require crosscutting skills like critical thinking, collaboration, and digital literacy

A lack of employability skills may contribute to a “talent shortage” ManpowerGroup, 2016

Employers cite employability skills as the most important skill

Hart Research Associates, 2015

Employer Perceptions

http://cte.ed.gov



orative Res x

Secure | <https://cte.ed.gov>

ns Collaborative

 **PCRN** PERKINS COLLABORATIVE RESOURCE NETWORK

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PLANNING GUIDE FOR ALIGNING CTE AND APPRENTICESHIP PROGRAMS
The Department has released a planning guide expanding the alignment between CTE and apprenticeship programs. [Download \(PDF, 3.7 MB\)](#)

About National Initiatives

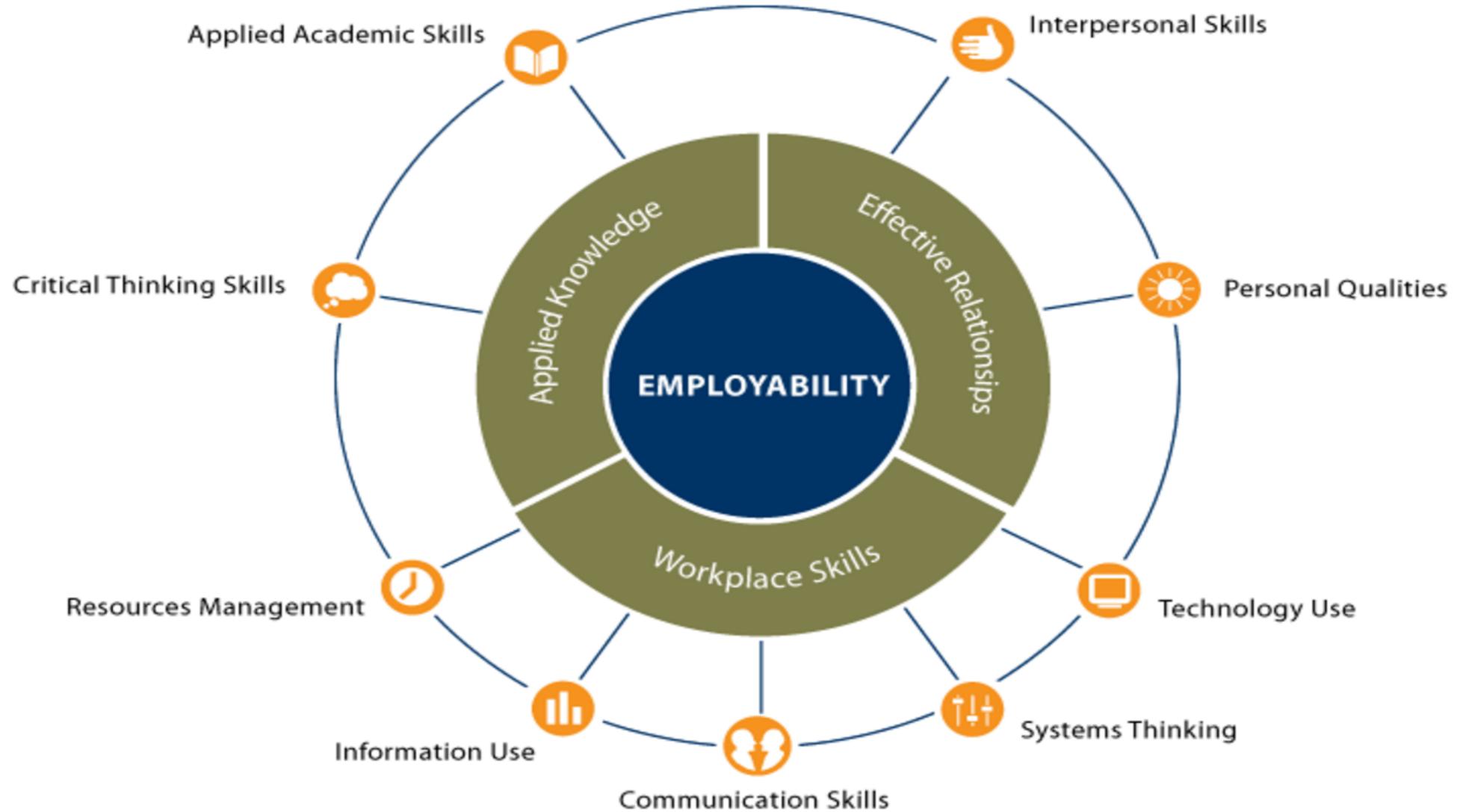
- [Advancing Career Pathways](#)
- [Advancing Equity in CTE](#)
- [Career Pathways Systems](#)
- [Challenges and Prizes in CTE](#)
- [Employability Skills](#)**
- [High School CTE Teacher Pathway](#)
- [Juvenile Justice Reentry Education Program](#)
- [Mapping Upward: Stackable Credentials that Lead to Careers](#)

National Center for Innovation in Career and Technical Education

- [Pay for Success](#)
- [Potential Role of Secondary CTE Programs in Preparing Students for Apprenticeship Programs](#)
- [Programs of Study](#)
- [Skills on Purpose](#)
- [U.S. Presidential Scholars in Career and Technical Education Program](#)

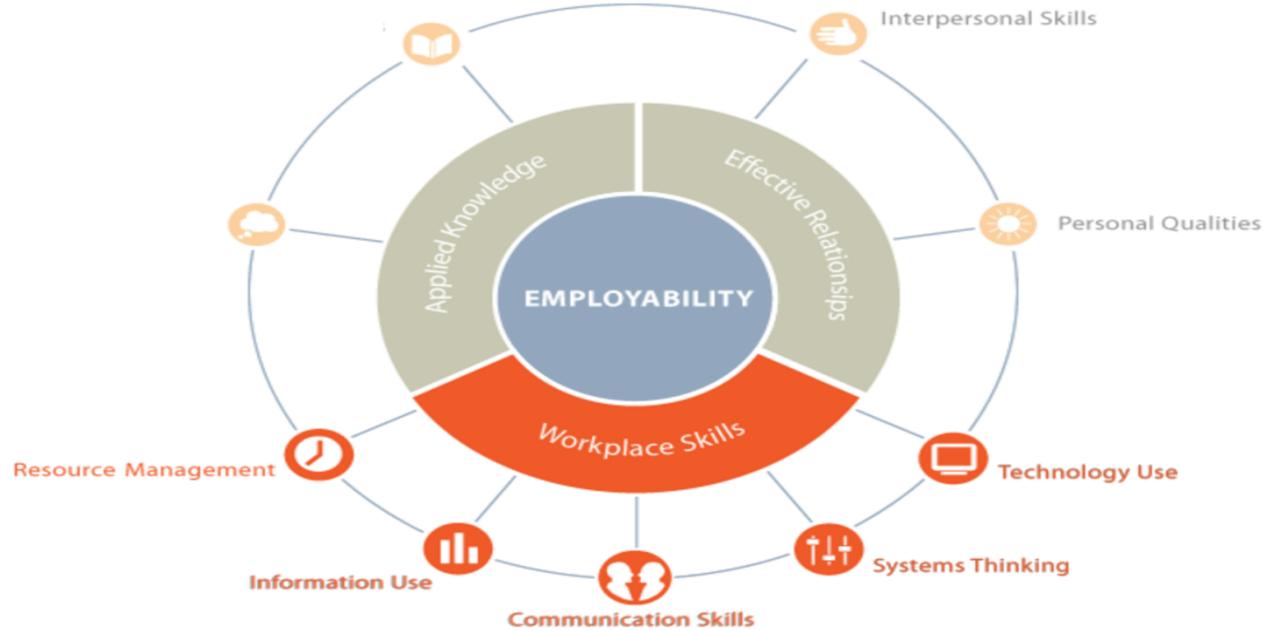
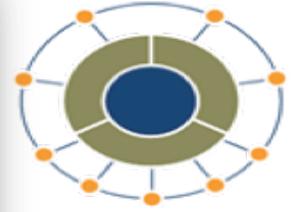
Employability Skills Framework

Click on the components to learn more



Employability Skills Framework

Click on the components to learn more



Workplace skills are the abilities employees need to successfully accomplish work tasks. Workplace skills include:



Resource management skills enable employees to successfully perform work tasks by managing time and other resources.



Information use skills enable employees to successfully perform work tasks by understanding, evaluating, and using a variety of information.



Communication skills enable employees to successfully perform work tasks by communicating effectively with others in multiple formats.



Systems thinking skills enable employees to successfully perform work tasks by understanding relationships among the components of a system.



Technology use skills enable employees to successfully perform work tasks by applying information technology appropriately and effectively.

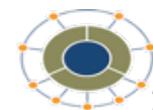
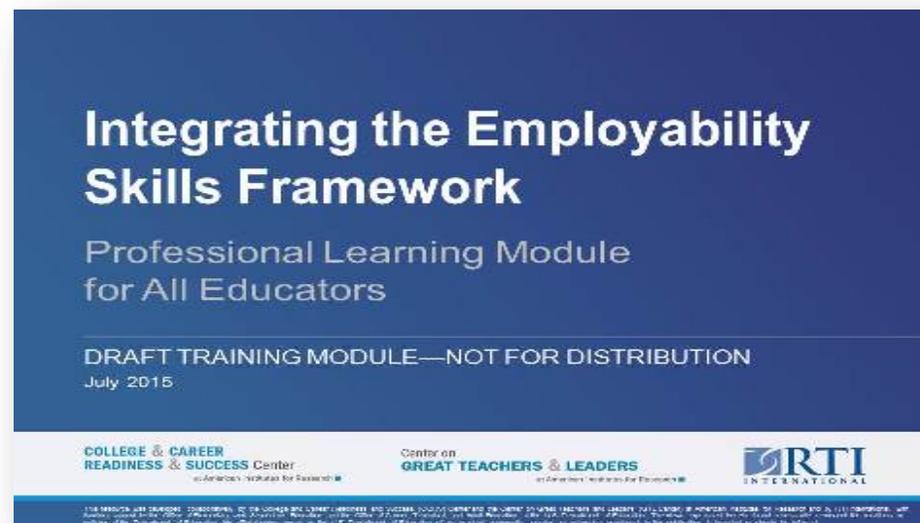
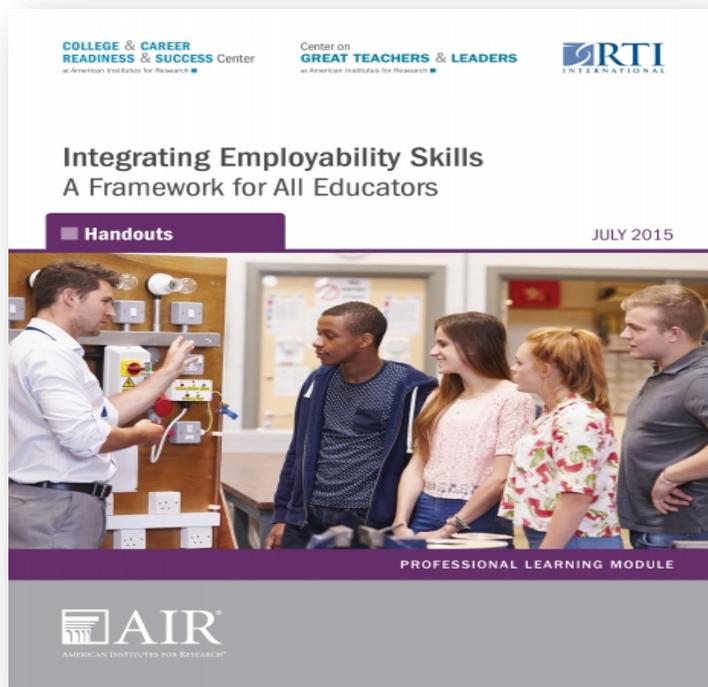
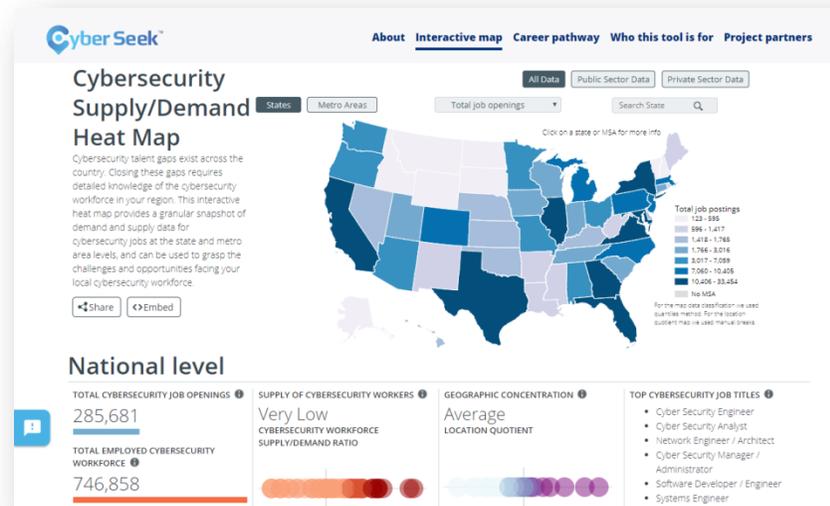
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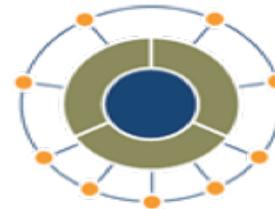


Helpful Resources

<http://www.cyberseek.org>

<http://www.ccrscenter.org>



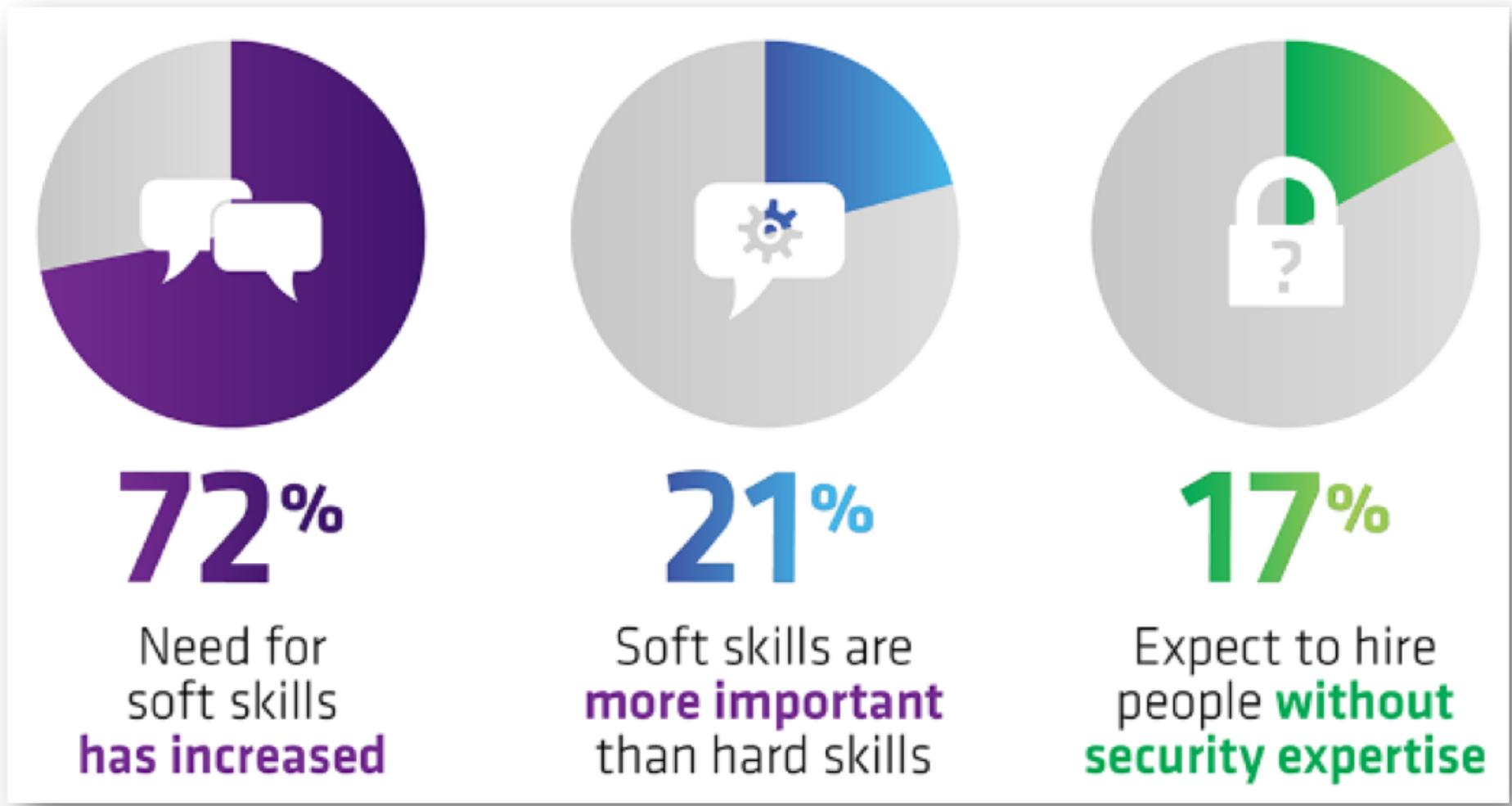


Email: Robin.Utz@ed.gov or CTE@ed.gov

Website: <http://cte.ed.gov>

Q & A

The Rise of Soft Skills



Which Are More Important?



65%
Analytical
Thinker



60%
Communication
Skills



59%
Good Trouble
Shooter



58%
Integrity &
Ethics



58%
Ability to Work
Under Pressure



50%
Able to Handle
Confidential Info

Enlisting Other Organizations



believe **non-security functions** need to be more involved in cybersecurity

Expected to be more involved in the future



Q & A

Thank You for Joining Us!

Upcoming Webinar: The Evolution of Federal Government Cybersecurity Education and Scholarship Programs

When: Wednesday, March 21, 2018 at 2:00pm ET

Register: <https://nist-nice.adobeconnect.com/webinar-mar2018/event/registration.html>

nist.gov/nice/webinars