Framework for the Future: Workplace Readiness Skills in Virginia

February 2019

Report written by Kathryn Piper Crespin

Research Team

Kathryn Piper Crespin
Stephen Holzman
Amy Muldoon
Shonel Sen

UNIVERSITY *of* VIRGINIA

Weldon Cooper Center
for **Public Service**
Demographics Research Group

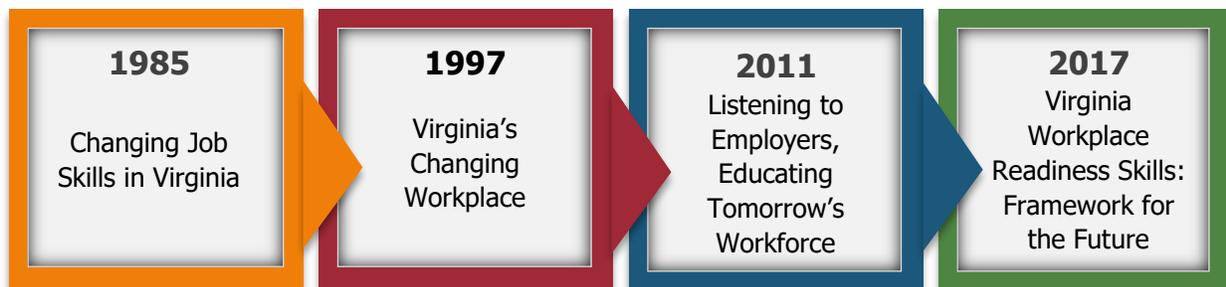# What are Virginia's Workplace Readiness Skills and Why Are They Important?

Virginia's Workplace Readiness Skills are a set of personal qualities, people skills, and professional abilities identified by Virginia employers and educators as essential for employee success in the workplace. Developed and updated over the past 20 years to adapt to changing workplace trends and needs, these skills are incorporated into the curriculum of every state Career and Technical Education (CTE) course. They not only give students of diverse backgrounds the opportunity to develop the personal resources they need to get and keep good jobs, but they also help employers by providing them with entry-level workers who are well-prepared to deal with a variety of workplace challenges. Additionally, since many students hone these skills through hands-on work experience, the decreasing labor force participation and increasing school enrollment of Virginia's teens in recent decades[1] means that school-based workplace readiness skills programs will become an even more vital resource for CTE students in the future.

Keeping Virginia's Workplace Readiness Skills Up-to-Date

The Virginia Department of Education's Office of Career, Technical, and Adult Education, in partnership with several organizations, has been sponsoring research on workplace readiness skills in Virginia for more than 30 years. In each decade since the 1980s, hundreds of employers throughout the Commonwealth have been interviewed or surveyed about what they believe are the most essential workplace skills for entry-level workers to possess.

Initial research conducted in the mid-1980s revealed that employers believed workplace readiness skills were at least as important as traditional academic and technical skills in promoting workplace success. Another round of research conducted from 1993 to 1997 led to the creation of Virginia's first set of 13 workplace readiness skills, which were incorporated into the curriculum of every Virginia CTE course in 1998. Based on research performed from 2008 to 2011, the original list of 13 skills was updated and expanded to 21 skills, and additional curriculum and assessment resources were developed. Students can now demonstrate their familiarity with the 21 skills and earn graduation credit and a digital badge by opting to take the *Workplace Readiness Skills for the Commonwealth Assessment Examination*.

History of Workplace Readiness Skills Research in Virginia

1985	1997	2011	2017
Changing Job Skills in Virginia	Virginia's Changing Workplace	Listening to Employers, Educating Tomorrow's Workforce	Virginia Workplace Readiness Skills: Framework for the Future

Current Workplace Readiness Skills for the Commonwealth

Personal Qualities and People Skills

1. POSITIVE WORK ETHIC: Comes to work every day on time, is willing to take direction, and is motivated to accomplish the task at hand
2. INTEGRITY: Abides by workplace policies and laws and demonstrates honesty and reliability
3. TEAMWORK: Contributes to the success of the team, assists others, and requests help when needed
4. SELF-REPRESENTATION: Dresses appropriately and uses language and manners suitable for the workplace
5. DIVERSITY AWARENESS: Works well with all customers and coworkers
6. CONFLICT RESOLUTION: Negotiates diplomatic solutions to interpersonal and workplace issues
7. CREATIVITY AND RESOURCEFULNESS: Contributes new ideas and works with initiative

Professional Knowledge and Skills

8. SPEAKING AND LISTENING: Follows directions and communicates effectively with customers and fellow employees
9. READING AND WRITING: Reads and interprets workplace documents and writes clearly
10. CRITICAL THINKING AND PROBLEM SOLVING: Analyzes and resolves problems that arise in completing assigned tasks
11. HEALTH AND SAFETY: Follows safety guidelines and manages personal health
12. ORGANIZATIONS, SYSTEMS, AND CLIMATES: Identifies "big picture" issues and his or her role in fulfilling the mission of the workplace
13. LIFELONG LEARNING: Continually acquires new industry-related information and improves professional skills
14. JOB ACQUISITION AND ADVANCEMENT: Prepares to apply for a job and to seek promotion
15. TIME, TASK, AND RESOURCE MANAGEMENT: Organizes and implements a productive plan of work
16. MATHEMATICS: Uses mathematical reasoning to accomplish tasks
17. CUSTOMER SERVICE: Identifies and addresses the needs of all customers, providing helpful, courteous, and knowledgeable service

Technology Knowledge and Skills

18. JOB-SPECIFIC TECHNOLOGIES: Selects and safely uses technological resources to accomplish work responsibilities in a productive manner
19. INFORMATION TECHNOLOGY: Uses computers, file management techniques, and software/programs effectively
20. INTERNET USE AND SECURITY: Uses the Internet appropriately for work
21. TELECOMMUNICATIONS: Selects and uses appropriate devices, services, and applications

2017 Research Process and Results

In 2017, the Office of Career, Technical, and Adult Education continued Virginia's long history of data-driven evaluation of its workplace readiness skills framework by requesting that the Demographics Research Group at the University of Virginia Weldon Cooper Center for Public Service conduct research to identify and update the skills that are of most value to the state's many employers. This research consisted of three stages: 1) reviewing relevant literature to identify and understand changing workplace trends; 2) analyzing numerous state and national workplace readiness skill frameworks to evaluate how Virginia's framework compares; and 3) conducting a survey of Virginia employers and workforce professionals to get their feedback about which workplace readiness skills are most critical for entry-level workers to have, now and in the future.

LITERATURE REVIEW

As a first step, Weldon Cooper Center researchers conducted a review of more than 70 reports, publications, websites, and other sources of information related to workplace trends and readiness skills. Six key, interrelated trends emerged as having especially significant influence on the changing needs and skill demands of the workplace:

- Information Revolution – The vast proliferation of data that now permeates every aspect of our lives has enabled a rapid pace of technological innovation across industries and has served as a driver of just about every other workplace trend listed below. Modern-day workers must be willing and able to keep their information literacy and technology skills up-to-date in order to know how to evaluate and apply this abundance of information effectively in the course of performing their job duties.

- Automation – Although the increased automation of more routine workplace tasks has displaced many workers, it has also increased the importance and weight within our economy of workers who possess the more complex, non-routine reasoning and communication skills that are not possible or cost-effective to automate.[2] To be successful, all workers will need to acquire the skills that will enable them to adapt to rapidly changing workplace needs, processes, and technology.

- Globalization – The explosive growth of technology has created a more interdependent and competitive global marketplace, forcing employers and workers alike to be more innovative and nimble in response. To be successful in the 21st century, workers must cultivate their ability to work collaboratively with diverse groups of people in a variety of constantly changing work environments.

- Rapid and Continuous Innovation – Innovation is driven in part by consumer demand for products and services that are customized or have new kinds of value added in terms of quality, convenience, and variety.[3] To remain competitive, providers of these products and

services must be creative, engage in "big picture" thinking with the needs of the end user in mind, persevere when new ideas do not work out, and remain flexible and adaptable in the face of constantly changing work conditions.

- Organizational Restructuring – Workplaces today are flatter and more flexible than in the past, involving more "horizontal" and less "vertical" collaboration among team members.[4] To succeed within this organizational structure, employees must not only engage strong interpersonal skills to work successfully with diverse and changing sets of teams, but they also must have excellent critical-thinking and problem-solving skills and be self-sufficient enough to manage their own work.

- Time- and Power-Shifting[5] – Major advancements in communication technology have enabled workers to conduct both personal and job-related activities at any time, softening the boundary between work and personal life. Although this unprecedented access to information has empowered employees to demand more transparency from their employers, it has also made it possible for employers to shift more of the planning and financial burdens associated with job training, health care, and retirement to employees.

FRAMEWORK COMPARISON

Weldon Cooper Center analysts reviewed at least 25 state and national workplace skill frameworks to assess how they compared to Virginia's in terms of skill composition and length. Although there were significant similarities among the various frameworks, each was unique in some way. Frameworks differed in the number, type, specificity, and organization of included skills—all interrelated factors that had an influence in determining the overall nature of each framework. Individual skills contained in other frameworks were catalogued and indexed to one or more of the 21 existing workplace readiness skills in Virginia's framework using a research tool designed for that purpose. Skills that did not have a corresponding match in Virginia's current framework were classified as potential possibilities for inclusion in the new, updated set of skills.

SURVEY OF VIRGINIA EMPLOYERS AND WORKFORCE PROFESSIONALS

In 2017, nearly 2,400 Virginia employers and workforce professionals were invited to share their opinions about Virginia's Workplace Readiness Skills by participating in a brief online survey. Nearly 400 invitees responded and completed the required portion of the survey.

Survey Development

Weldon Cooper Center researchers, in consultation with the State CTE Advisory Committee, developed a slightly modified version of Virginia's current skill framework for use in conjunction with the survey. The modified version included two additional skills—*Information Literacy* and *Initiative & Self-Direction*—to test whether survey respondents deemed these skills

worthy of inclusion in Virginia's updated framework. It also incorporated slight changes to the following skills: *Creativity & Resourcefulness*, *Diversity Awareness*, and *Positive Work Ethic*.

Current Skill Importance

Survey participants were first asked to rate the current importance of each workplace readiness skill for entry-level workers in their respective organizations. Table 1 groups the skills according to the importance rating selected by the greatest percentage of survey respondents and then lists them in decreasing order of importance.

All but two skills were rated by most respondents as either "very important" or "extremely important," and no skills were rated by a majority of respondents as either "slightly important" or "not at all important." This suggests that skills featured in Virginia's existing framework continue to be viewed by employers and professionals as being important and relevant to current workplace demands.

The 2017 survey results confirm that Virginia's employers and workforce professionals continue to believe, as they have for decades, that integrity, a positive work ethic, and strong interpersonal, reasoning, and communication skills are the most important skills for entry-level workers to possess.

Table 1. Current importance of workplace readiness skills	
Extremely important	**Very important**
• Integrity	• Conflict Resolution
• Positive Work Ethic	• Information Technology
• Speaking and Listening	• Job-Specific Technologies
• Teamwork	• Organizations, Systems, and Climates
• Customer Service	• Creativity and Innovation
• Critical Thinking and Problem Solving	• Telecommunications
• Reading and Writing	
• Respect for Diversity	**Moderately important**
• Time, Task, and Resource Management	• Mathematics
• Initiative and Self-Direction	• Job Acquisition and Advancement
• Information Literacy	
• Self-Representation	
• Internet Use and Security	
• Health and Safety	
• Lifelong Learning	

Future Skill Importance

Survey participants were also asked to rate how important each of the workplace readiness skills *will be* for entry-level workers *in about five years from now*. Table 2 groups the skills according to the importance rating selected by the greatest percentage of survey respondents and then lists them in decreasing order of importance. No skill had a majority of respondents say it would be less important in the future.

Table 2. Future importance of workplace readiness skills	
More important in the future	**About the same importance in the future**
- Critical Thinking and Problem Solving - Information Technology - Initiative and Self-Direction - Information Literacy - Creativity and Innovation - Respect for Diversity - Internet Use and Security - Teamwork - Lifelong Learning - Time, Task, and Resource Management - Job-Specific Technologies - Speaking and Listening - Customer Service - Positive Work Ethic - Telecommunications	- Conflict Resolution - Integrity - Organizations, Systems, and Climates - Reading and Writing - Health and Safety - Mathematics - Job Acquisition and Advancement - Self-Representation

Many of the workplace skills determined to be most important for entry-level workers to possess in the future correspond with key workplace trends identified in the literature review:
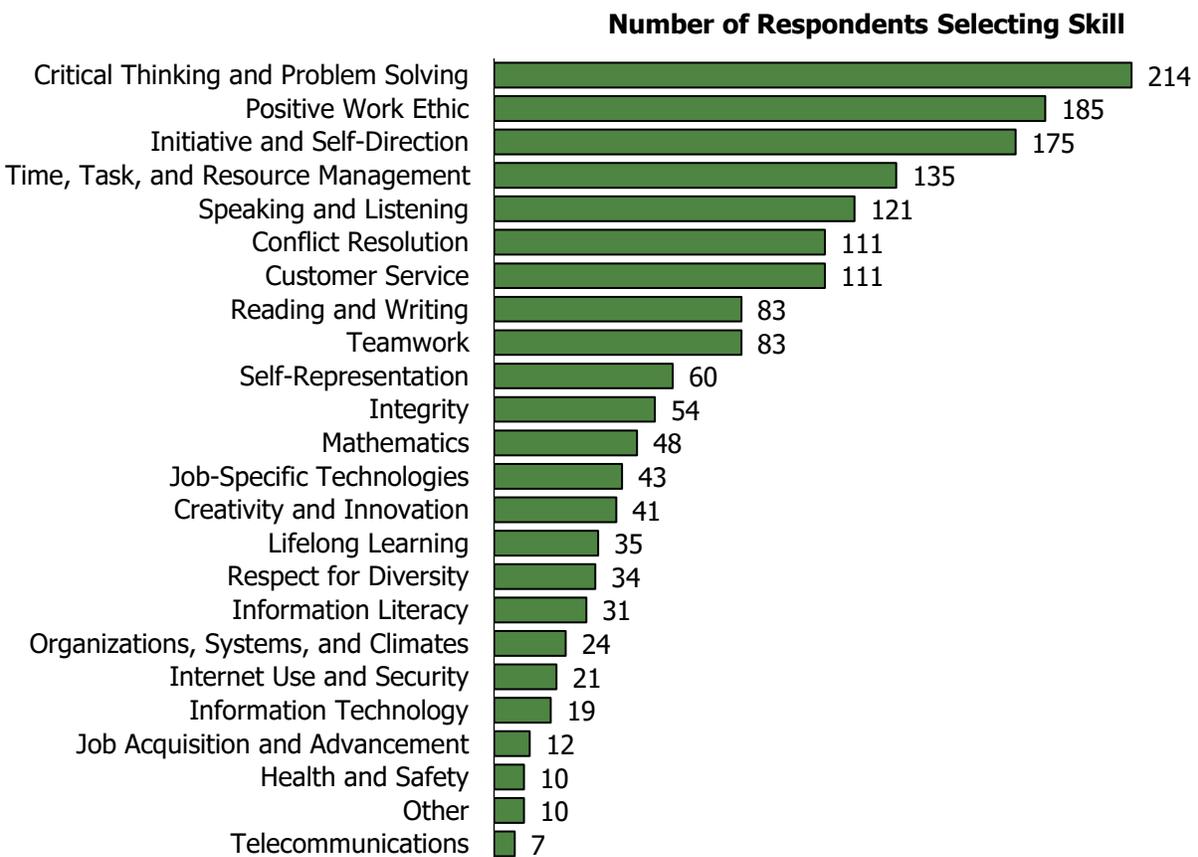
- The *Information Technology*, *Information Literacy*, and *Internet Use and Security* skills were all ranked among the top ten most important skills for entry-level workers to possess in the future, which aligns with the trend of information proliferation in the workplace.

- Although *Creativity and Innovation* was ranked lower than most skills in terms of current importance (20th of 23 skills), it ranked fifth in terms of future importance, a sign that employers believe innovation will become an increasingly prevalent and essential element of workplace success in the future.

- A common theme reflected in all six of the key workplace trends identified in the literature review was an expectation of continuous workplace change, which reinforces the ranking of *Lifelong Learning* among the top ten most important skills for workers to possess in the future.

Skill Deficiencies

In addition to rating the importance of Virginia's Workplace Readiness Skills, survey participants were asked to list up to five skills they believe today's entry-level employees are lacking the most. Figure 1 shows for each skill the number of respondents who indicated it is lacking among entry-level employees in the workplace.

More than 200 respondents said the skill most lacking among entry-level workers today is *Critical Thinking and Problem Solving* (214). More than 100 respondents said the following skills are most lacking: *Positive Work Ethic* (185); *Initiative and Self-Direction* (175); *Time, Task, and Resource Management* (135); *Speaking and Listening* (121); *Conflict Resolution* (111); and *Customer Service* (111).

Figure 1. Skills Most Lacking Among Entry-Level Employees

Number of Respondents Selecting Skill

Skill	Number
Critical Thinking and Problem Solving	214
Positive Work Ethic	185
Initiative and Self-Direction	175
Time, Task, and Resource Management	135
Speaking and Listening	121
Conflict Resolution	111
Customer Service	111
Reading and Writing	83
Teamwork	83
Self-Representation	60
Integrity	54
Mathematics	48
Job-Specific Technologies	43
Creativity and Innovation	41
Lifelong Learning	35
Respect for Diversity	34
Information Literacy	31
Organizations, Systems, and Climates	24
Internet Use and Security	21
Information Technology	19
Job Acquisition and Advancement	12
Health and Safety	10
Other	10
Telecommunications	7

Eight of the top ten most lacking skills among entry-level employees were also ranked among the ten most currently important skills—1) Critical Thinking and Problem Solving; 2) Positive Work Ethic; 3) Initiative and Self-Direction; 4) Time, Task, and Resource Management; 5) Speaking and Listening; 6) Customer Service; 7) Reading and Writing; and 8) Teamwork.

Missing Skills and Open-Ended Comments

The survey also included questions about the skill framework itself. To determine what skills might be missing from Virginia's framework, survey participants were asked the open-ended question, "What workplace readiness skills, if any, do you believe are missing from the current framework and should be added?" Respondents were also given the chance to provide any additional comments or thoughts they might have about workplace readiness skills in general.

A few of the most predominant themes among the responses to these two parts of the survey were that students and entry-level workers need:

- More hands-on/real-life work experience
- Greater emphasis on work ethic/responsibility
- Better interpersonal skills
- More initiative/self-direction

Virginia's New Workplace Readiness Skills

Based on findings from all three research components and input from Virginia's CTE Advisory Committee, the Weldon Cooper Center research team made the following recommendations for enhancements to Virginia's Workplace Readiness Skills:

- Add two new skills to the framework: *Initiative and Self-Direction* and *Information Literacy.*
- Eliminate one skill by merging *Telecommunications* into *Information Technology.*
- Modify the skill domains.
- Shift, merge, revise, and/or enhance key concepts of some skills while making minor wording adjustments to the titles and definitions of others.

The Office of Career, Technical, and Adult Education convened a panel of CTE administrators and educators and curriculum development and assessment experts to review the Weldon Cooper Center recommendations and to continue the process of refining the skills. As a result of their collaborative efforts, a new set of Workplace Readiness Skills for the Commonwealth was developed for adoption by the Virginia Board of Education (see page 9).

The refinements made to Virginia's Workplace Readiness Skills through this research ensure that they are up-to-date and aligned with the needs of Virginia's employers. Although many of the changes made to the framework reflect the changing nature of the modern-day workplace, the research findings confirm that integrity, a positive work ethic, and strong interpersonal, reasoning, and communication skills continue to be the most essential skills for entry-level workers to possess, as they have for decades. As more CTE students turn to the classroom for guidance on preparing them for the workplace, school-based workplace readiness skills programs such as Virginia's will become an even more vital resource for CTE students in the future.

<u>NEW</u> Workplace Readiness Skills for the Commonwealth

<u>Personal Qualities and Abilities</u>

1. CREATIVITY AND INNOVATION: Employs originality, inventiveness, and resourcefulness in the workplace

2. CRITICAL THINKING AND PROBLEM SOLVING: Uses sound reasoning to analyze problems, evaluate potential solutions, and implement effective courses of action

3. INITIATIVE AND SELF-DIRECTION: Independently looks for ways to improve the workplace and accomplish tasks

4. INTEGRITY: Complies with laws, procedures, and workplace policies; demonstrates honesty, fairness, and respect

5. WORK ETHIC: Consistently works to the best of one's ability and is diligent, dependable, and accountable for one's actions

<u>Interpersonal Skills</u>

6. CONFLICT RESOLUTION: Negotiates diplomatic solutions to interpersonal and workplace issues

7. CUSTOMER SERVICE: Anticipates and addresses the needs of customers and coworkers, providing thoughtful, courteous, and knowledgeable service

8. LISTENING AND SPEAKING: Listens attentively and asks questions to clarify meaning; articulates ideas clearly in a manner appropriate for the setting and audience

9. RESPECT FOR DIVERSITY: Values individual differences and works collaboratively with people of diverse backgrounds, viewpoints, and experiences

10. TEAMWORK: Shares responsibility for collaborative work and respects the thoughts, opinions, and contributions of other team members

<u>Professional Competencies</u>

11. "BIG PICTURE" THINKING: Understands one's role in fulfilling the mission of the workplace and considers the social, economic, and environmental impacts of one's actions

12. CAREER AND LIFE MANAGEMENT: Plans, implements, and manages personal and professional development goals related to education, career, finances, and health

13. CONTINUOUS LEARNING AND ADAPTABILITY: Accepts constructive feedback and is open to new ideas and ways of doing things; continuously develops professional skills and knowledge to adjust to changing job requirements

14. EFFICIENCY AND PRODUCTIVITY: Plans, prioritizes, and adapts work goals to manage time and resources effectively

15. INFORMATION LITERACY: Locates information efficiently, evaluates the credibility and relevance of sources and facts, and uses information effectively to accomplish work-related tasks

16. INFORMATION SECURITY: Understands basic internet and email safety and follows workplace protocols to maintain the security of information, computers, networks, and facilities

17. INFORMATION TECHNOLOGY: Maintains a working knowledge of devices, resources, hardware, software, systems, services, applications, and IT conventions

18. JOB-SPECIFIC TOOLS AND TECHNOLOGIES: Knows how to select and safely use industry-specific technologies, tools, and machines to complete job tasks effectively

19. MATHEMATICS: Applies mathematical skills to complete tasks as necessary

20. PROFESSIONALISM: Meets organizational expectations regarding work schedule, behavior, appearance, and communication

21. READING AND WRITING: Reads and interprets workplace documents and writes effectively

22. WORKPLACE SAFETY: Maintains a safe work environment by adhering to safety guidelines and identifying risks to self and others

Endnotes

[1] Kathryn Crespin, "Youth labor force participation and workplace readiness in Virginia," StatChat (blog), December 21, 2017, http://statchatva.org/2017/12/21/youth-labor-force-participation-and-workplace-readiness-in-virginia/.

[2] Craig D. Jerald, "Defining a 21st Century Education," The Center for Public Education, July 2009, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.460.8011&rep=rep1&type=pdf, 7-8.

[3] Anthony P. Carnevale, "21st Century Competencies: For College and Career Readiness," 2013, https://repository.library.georgetown.edu/handle/10822/559289, 6.

[4] Jerald, "Defining a 21st Century Education," 14.

[5] W. Warner Burke, "What Human Resource Practitioners Need to Know for the Twenty-First Century," *Human Resource Management (1986-1998)* 36, no. 1 (1997): 71, http://search.proquest.com/openview/4b083d70afcc073337bba09fb56f28ff/1?pq-origsite=gscholar&cbl=34999, 75-77.