

MAKING CAREER READINESS COUNT



Achieve & National Association of State Directors of Career Technical Education Consortium (NASDCTEc)



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I. Introduction

There is growing consensus in states across the nation that the goal of the K–12 education system is to *prepare all students to graduate from high school ready for college and careers*. Yet, in all but a handful of states, the priority goals set to drive student performance toward and beyond college and career readiness sputter out after the word “college.” The student performance indicators that states include in school- and district-level report cards and accountability systems should tell a story about what matters most to the states. Looking at these report cards and accountability systems, the story seems to be that the essential “and” in “college and careers” is actually an “or,” with the focus on career readiness often limited to a subset of students. Without including student performance indicators tied to career pathways and experiences, states are missing the opportunity to signal to schools and districts, communities, parents, and students that preparing *all students* for careers matters.

This needs to change. It is critical that states encourage schools and districts to provide all students experiences that put them on a path to access and succeed in the careers of their choosing, as well as experiences they need to build the knowledge and skills necessary for entry into and success in postsecondary education. Whether high school graduates enroll in a traditional two- or four-year institution, enter a postsecondary technical program or apprenticeship, or go directly into the military or workforce following high school graduation, *they need the same core of academic skills, particularly in English/language arts (ELA) and mathematics*.

There may be additional academic skills or knowledge necessary for certain content areas, and all students need strong critical-thinking and problem-solving skills. The vast majority of graduates who do go directly into the workforce will need to complete additional education or training to get jobs that offer a family-sustaining wage and pathways to advancement.¹ It is also true that all students are working toward career pathways. As such, states need to encourage and support schools and districts to help all students reach a college- and career-ready level of academic preparation, while also encouraging them to help all students participate and succeed in career pathways and experiences that both prepare them for and guide them through the future of work.

One of the clearest ways for states to do this is by setting strong performance goals for all students that value career-focused courses, experiences and credentials and then backing up those goals with specific indicators that are reported to the public and used in school and district accountability systems. This serves two essential purposes: First, that career readiness is a priority for the state, and second, that policymakers, education leaders, teachers, community partners, business and workforce leaders, parents, and students have the right information at the right time to make important decisions and continuous progress toward the goals. Yet, the current state of knowledge and understanding about how to do this is limited.

The purpose of this brief is to increase knowledge and understanding of career readiness by proposing an expanded framework for college- and career-ready indicators that better incorporates indicators focused on career preparation. We intend to catalyze action—we provide guidance and recommendations for states on how they can take steps in the next few years to ensure that the “career” in their college- and career-ready accountability and public reporting system is not an afterthought but rather a powerful lever to focus priorities, drive progress, and ultimately see more students, and their communities, succeed. Importantly, we are not putting forward one specific approach or strategy for valuing college and career readiness but rather offering a view into how states are currently approaching this challenge and what policymakers need to consider as they look to reform their own reporting and accountability systems.

¹ Achieve (2012). *The Future of the U.S. Workforce: Middle Skills Jobs and the Growing Importance of Postsecondary Education*. www.achieve.org/middleskills.

II. Expanded Framework for College and Career Readiness Indicators

Achieve’s initial framework for college and career readiness indicators, developed through its collaboration with The Education Trust for the *Measures that Matter* set of guidance to states, emphasizes two primary recommendations for states.ⁱⁱ First, it encourages states to use multiple indicators of college and career readiness in their accountability and public reporting systems. College and career readiness requires far more than a test score—students need the experience of working toward mastery of college- and career-ready standards and persisting along pathways to graduation, advanced training and postsecondary education. As such, states should include indicators that reflect student *achievement* on assessments; *completion of rigorous coursework*; and *attainment* of credits, recognized credentials and degrees.

Second, it emphasizes that states need to ensure that they incentivize student progress toward and beyond college and career readiness so that the system recognizes and rewards schools and districts where students are making strides toward—but not yet meeting—readiness. The system also needs to recognize and reward schools and districts where students are going above and beyond in accelerating and deepening their application of knowledge and skills toward college and careers. As such, states should use college- and career-ready indicators that reflect a continuum of *progress toward*, *meeting* and *exceeding* college- and career-ready expectations. While indicators of *meeting* college and career readiness should be the core of the system, the continuum of indicators positions states to meet the dual goals of ensuring that students off-track get the attention and resources they need to get back on track and avoiding a situation where the floor becomes the ceiling, providing incentives for students who meet the college and career readiness standard earlier in high school to continue to strive for more.

These two recommendations create a framework for states whereby indicators fit into a specific box in a broad three-by-three matrix (Figure 1). The framework is not meant to be a formula for states but rather to guide states’ thinking about how to create a coherent set of college- and career-ready indicators that send the right signals to the right people at the right time.

While this framework presents a strong vision for college- and career-ready indicators and has catalyzed action across states, it has not yet gone far enough in specifying the full range of indicators needed to drive *career* preparation. Figure 2 illustrates an expanded framework for college and career readiness indicators that builds on the current framework. First, it further reinforces the need for indicators to reflect multiple dimensions of what it takes for students to be college and career ready. Not only do students need to have achieved a level of academic preparation that will allow them to succeed in rigorous technical or military training or other postsecondary education, but they also need to persist through career-oriented courses and pathways, have work-based experiences in high school, and attain credentials that put them on a path toward meaningful employment. As such, the expanded framework emphasizes that, in addition to achievement, course completion and success, and attainment, states can emphasize the importance of career preparation by using indicators of *experiential learning*.

Second, the expanded framework enhances the current framework by adding specific, career-focused indicators. While the level of academic preparation for college and career is the same, states should use multiple indicators focused on specific courses, experiences or credentials aligned to career preparation. These are not replacements

ⁱⁱ Achieve and The Education Trust (2008). *Measures that Matter—Making College and Career Readiness the Mission for High Schools: A Guide for State Policymakers*. www.achieve.org/files/MakingCollegeandCareerReadinesstheMissionforHighSchool.pdf.

Figure 1: Framework for College and Career Readiness Indicators as Outlined in *Measures that Matter*

	Toward College and Career Readiness	Meeting College and Career Readiness	Exceeding College and Career Readiness
Course completion/success	<ul style="list-style-type: none"> • Timely credit accumulation along a college- and career-ready course of study 	<ul style="list-style-type: none"> • Students in a graduating cohort who complete a college- and career-ready course of study 	<ul style="list-style-type: none"> • Graduates who have completed Advanced Placement (AP), International Baccalaureate (IB) and/or dual enrollment courses
Achievement	<ul style="list-style-type: none"> • Students with “on track to college and career readiness” performance on aligned assessments in middle and early high school 	<ul style="list-style-type: none"> • Students in a graduating cohort with a college- and career-ready level of performance on a high-quality assessment aligned to college- and career-ready standards 	<ul style="list-style-type: none"> • Graduates with a college-level performance on an AP and/or IB exam
Attainment	<ul style="list-style-type: none"> • 9th grade students with “on track” to graduation status based on attendance and grades in core courses • High school graduation 	<ul style="list-style-type: none"> • Students in a graduating cohort who earn a college- and career-ready diploma 	<ul style="list-style-type: none"> • Graduates who enroll in postsecondary education with no need for remediation • Graduates who successfully complete at least one year of postsecondary education or a training program

for other college- and career-ready indicators, particularly academic indicators, but rather an additive way of enriching the accountability and reporting system. In many cases, states will need to be thoughtful in determining which indicators are most appropriate and in establishing systems to ensure quality and consistency of the indicators. An important part of doing so is authentically involving postsecondary technical programs and employers as valuable parts of decision making and guidance.

This section dives deeper into our recommendations for career-focused indicators, how they are being used today in state public reporting and accountability systems, and specific considerations and challenges in using these indicators—including the need for mechanisms to ensure consistency and quality both across schools and districts and across measures.

WHAT ARE CAREER-FOCUSED READINESS INDICATORS?

While the core academic skills and knowledge, particularly in ELA and mathematics, needed for both college and career are the same, some college- and career-ready indicators should be more focused on specific courses, experiences or credentials aligned to career preparation. For example, an indicator may be “the percentage of graduates who successfully complete a career technical education (CTE) pathway or program of study.” We call this subset of college- and career-ready indicators “career-focused” readiness indicators.

WHAT IS COLLEGE AND CAREER READINESS?

From an academic perspective, college and career readiness means that a high school graduate has the ELA and mathematics knowledge and skills necessary to qualify for and succeed in:

- Entry-level, credit-bearing courses without the need for remedial coursework; and
- Postsecondary job training and/or education necessary for his/her chosen career (e.g., technical/vocational program, community college, apprenticeship or significant on-the-job training).

To be college and career ready, high school graduates must have completed a rigorous and broad curriculum that is grounded in the core academic disciplines but also includes other subjects that are part of a well-rounded education.

Career readiness builds on this definition, including both academic and technical knowledge and skills, as well as employability knowledge, skills and dispositions. The Career Readiness Partner Council, coordinated by National Association of State Directors of Career Technical Education Consortium (NASDCTEc), in which Achieve was a partner, has emphasized the following attributes of career readiness:ⁱⁱⁱ

Academic and Technical Knowledge and Skills

A career-ready person is proficient in the core academic subjects, as well as in technical topics. This foundational knowledge base includes competence in a broad range of academic subjects grounded in rigorous, internationally benchmarked state standards—such as the Common Core State Standards (CCSS) for ELA and mathematics. It also includes a level of technical-skill proficiency aligned to a chosen career field and pathway and the ability to apply both academic and technical learning in the context of a career. Many careers also require deeper learning and mastery in specific academic or technical subjects.

Employability Knowledge, Skills and Dispositions

A career-ready person has a good understanding of his or her interests, talents and weaknesses and a solid grasp of the skills and dispositions necessary for engaging in today's fast-paced, global economy. These include but are not limited to:

- Goal setting and planning;
- Managing transitions from school to work and back again and from one occupation along a career pathway to another;
- Clear and effective communication skills;
- Critical thinking and problem solving;
- Working productively in teams and independently;
- Effective use of technology; and
- Ethical decision making and social responsibility.

ⁱⁱⁱ Career Readiness Partner Council. *Building Blocks for Change: What It Means to be Career Ready*. www.careerreadynow.org/docs/CRPC_4pager.pdf.

Figure 2: Expanded Framework for College and Career Readiness Indicators

	Toward College and Career Readiness	Meeting College and Career Readiness	Exceeding College and Career Readiness
Course completion/success	<ul style="list-style-type: none"> Timely credit accumulation along a college- and career-ready course of study <p>AND</p> <ul style="list-style-type: none"> Participation in career technical education (CTE) course(s) aligned to college- and career-ready or rigorous standards in other subjects 	<ul style="list-style-type: none"> Students in a graduating cohort who complete a college- and career-ready course of study <p>AND</p> <ul style="list-style-type: none"> Successful completion of secondary CTE pathway (“concentrating”) 	<ul style="list-style-type: none"> Graduates who have completed AP, IB and/or dual enrollment courses and earned college credit <p>AND</p> <ul style="list-style-type: none"> Completion of program of study aligned to workforce needs
Achievement	<ul style="list-style-type: none"> Students with “on track to college and career readiness” performance on aligned assessments in middle and early high school 	<ul style="list-style-type: none"> Students in a graduating cohort with a college- and career-ready level of performance on a high-quality assessment aligned to college- and career-ready standards <p>AND</p> <ul style="list-style-type: none"> Meeting standards on technical skills assessment for students who complete a CTE pathway 	<ul style="list-style-type: none"> Graduates with a college-level performance on an AP and/or IB exam
Attainment	<ul style="list-style-type: none"> 9th grade students with “on track” to graduation status based on attendance and grades in core courses High school graduation 	<ul style="list-style-type: none"> Students in a graduating cohort who earn a college- and career-ready diploma <p>AND</p> <ul style="list-style-type: none"> Earn industry-recognized credential/certificate Complete a pre-apprenticeship program Earn an employability or work readiness certificate 	<ul style="list-style-type: none"> Graduates who enroll in postsecondary education with no need for remediation Graduates who successfully complete at least one year of postsecondary education or a workforce/military training program <p>AND</p> <ul style="list-style-type: none"> Earn academic or technical endorsement on college- and career-ready diploma Earn stacked industry credential
Experiential learning	<ul style="list-style-type: none"> Participation in a career technical student organization (CTSO) that is aligned to and reinforces the academic and technical content in a CTE pathway Participation in work-based learning (WBL) Participation in college/career planning activities 	<ul style="list-style-type: none"> Participation in CTSO competition Successful completion of WBL Completion of portfolio/capstone project 	<ul style="list-style-type: none"> Earn a medal in CTSO competition Earn postsecondary credit through internships, WBL

Course Completion and Success

Recommendations

All students should complete a course of study that reflects the full set of the state’s college- and career-ready standards, but this requirement still leaves plenty of opportunity for students to take rich and engaging technical coursework. As such, states should include indicators that reflect student completion of and success in rich, engaging academic and technical coursework and pathways aligned to the students’ career goals. The indicators may describe the percentage of students making progress by showing timely completion of coursework early in high school, the number of students who have met a readiness threshold by completing a career technical education (CTE) pathway and a college- and career-ready course of study, as well as the percentage of students exceeding the readiness threshold by earning credit in postsecondary and training through dual enrollment or credit opportunities.

Increasingly, states are embracing a “program of study” model, which is a sequence of nonduplicative academic and technical courses across both secondary and postsecondary settings that results in an industry-recognized credential, postsecondary credit and/or a postsecondary degree. Focusing on students’ completion of a CTE pathway or program of study helps ensure that students are gaining broader career exploration and industry-focused skills, as well as the more occupationally-specific skills, both of which are critical to students’ career readiness.

Examples of state use in public reporting and accountability

In total, 13 states include student participation in and/or completion of a CTE pathway in their statewide report cards.^{iv} Only **California, Kentucky, Nevada** and **Washington** include both participation and completion. Four states include student participation in and/or completion of a CTE pathway in their statewide accountability system through formulas or bonus points.^v

Considerations and challenges

States should partner with workforce development leaders to ensure that the CTE pathways incentivized in public reporting and accountability have strong utility with employers, as well as establish ongoing feedback loops among workforce development leaders, employers and schools so that, over time, adjustments can be made based on data. This approach can help reinforce state or regional workforce development strategy. A challenge with broadening data collection to capture how many students are completing a program of study, rather than a pathway bounded at the secondary level, is linking secondary and postsecondary data. However, one approach might be including an indicator for how many students complete a CTE pathway—or qualify as a CTE “concentrator” in that they are taking two or three CTE courses in the same area—and also participate in dual enrollment. No state currently reports on this combined indicator, although eight states do currently report on the number of students completing a CTE pathway at the secondary level. **Washington** does report on the number of students participating in and earning dual credits through Tech Prep.

Achievement

Recommendations

All states should include an indicator that reflects the rate of students who have mastered college- and career-ready academic standards in ELA and mathematics, which would primarily be measured through high-quality, college- and career-ready assessments aligned to the standards. These assessments should

^{iv} California, Connecticut, Georgia, Kentucky, Maryland, Massachusetts, Nevada, New Mexico, North Carolina, South Carolina, Texas, Virginia and Washington.

^v Idaho, Maryland, New Mexico and Oklahoma.

report student outcomes according to college- and career-ready expectations that have been validated and have utility with postsecondary education and employers.

Based on state priorities and context, states may also choose to include an additional indicator that reflects student performance on technical skills assessments (TSAs), which are aligned to CTE courses and pathways and often have utility with employers. It is critical that states see these assessments as a valuable supplement to students' high school experiences but not a replacement for comprehensive academic preparation.^{vi} TSAs are primarily used to evaluate students' technical skills after they complete courses and pathways and are offered statewide in 14 states across the nation. Although passing a TSA does not guarantee that a student has met academic college- and career-ready expectations, including an indicator that reflects the number of students who do so is a promising way for states to underscore the importance of students not only completing rigorous CTE pathways but also exiting with high levels of technical skill. Additionally there are a few, mainly local, examples of TSAs being used to award credit towards postsecondary CTE programs.

Examples of state use in public reporting and accountability

Connecticut administers TSAs in 20 CTE areas. By the 2014–15 school year, 40 percent of all questions on these assessments will be aligned to the CCSS, and school reports will include information on students' success on those CCSS-aligned questions. These assessments are also the foundation for the student learning objectives being developed for the district teacher evaluation systems. However, Connecticut does not currently report on students' achievement on their TSAs as part of its statewide reporting or accountability system.

Pennsylvania administers TSAs or what the state calls "industry standards-based competency assessments"—in about a dozen areas to students who must be at least halfway through their CTE pathway. The percentage of students earning "advanced" on these exams is now included in the state's accountability system and on each school's report card as one indicator under the "extra credit for advanced achievement" section.

Considerations and challenges

While states should include indicators that reflect how well all students perform against college- and career-ready academic expectations, states will need to be clear about whether and how they incorporate additional indicators to reflect achievement on technical assessments. Including indicators such as student performance on TSAs should be done in such a way as to give a fuller picture of college and career readiness and incentivize schools to support students so that they can perform well on such assessments. However, this should not be done in a way that either sets up technical assessments as a substitute for college- and career-ready assessments or incentivizes students to take more tests than are needed.

Attainment

Recommendations

States should incentivize, recognize and reward schools and districts where students are building toward, meeting and exceeding college and career readiness through attainment of credentials and degrees that are used by employers and align to workforce development needs. These indicators may describe the percentage of students who are on track to or have attained CTE or technical honors high school diplomas (provided that they are at a college- and career-ready level or above), the rate of students who attain industry certification or licensure, and even the rate of students who are placed in jobs with pathways to advancement.

^{vi} Achieve (November 2008). *Measures that Matter—Work Readiness Certification and Industry Credentials*. <http://achieve.org/files/WorkReadinessCertificationandIndustryCredentials.pdf>.

These types of credentials and certifications can hold great value for students. Industry credentials and certifications are particularly effective at demonstrating whether a student has mastered occupation-specific skills. At a minimum, they may serve as a signal to employers and postsecondary institutions of the skills a student has already gained. In some cases, a student may not be able to access a career opportunity without a certain certification and/or license. If these are included in a reporting or accountability system along with measures of academic and employability skills—test based or otherwise—schools can be better held accountable for graduating fully prepared students.

Examples of state use in public reporting and accountability

Today, only **Kentucky** and **Virginia** have built a range of such attainment indicators into their reporting systems. Virginia, in particular, includes the most comprehensive and disaggregated list of technical and work-ready assessments on the state’s report cards, including the number of students earning the state-developed Work Readiness certificate (which measures students’ employability skills, such as work ethic, conflict resolution and customer service), state licensures, industry certifications and competency assessments.^{vii}

Virginia also includes the number of students earning one or more credentials on the state report cards. In addition, in its annual performance reports, Virginia provides the state board of education and the public with information about the number of students who graduate from high school with an industry credential and having completed a college-preparatory course of study, as represented by Virginia’s Advanced Studies diploma. This information, along with other state support, is helping local schools strengthen their programs

RECOGNIZING COLLEGE AND CAREER READINESS IN ACCOUNTABILITY

Kentucky breaks down its indicators into College Ready (which is based on student achievement on the ACT or a college placement exam) and Career Ready. Within the Career Ready category, students must demonstrate their readiness in two indicators —“career-ready academic” and “career-ready technical.” Career-ready academic indicators measure whether students meet benchmarks on WorkKeys or the Armed Services Vocational Aptitude Battery (ASVAB), while the career-ready technical indicators measure whether students earn an industry-recognized credential or meet benchmarks on the state’s technical skills assessment, the Kentucky Occupational State Skills Assessment (KOSSA).

Kentucky is one of the few states that recognizes the distinction between these career-ready measures, reports on both and includes them within the statewide accountability system.^{viii} These college-ready, career-ready academic and career-ready technical indicators are reported on school and district report cards (including by student subgroup), and a combined college- and/or career-ready score contributes to the state’s overall high school and district rating system for accountability.

^{vii} See <https://p1pe.doe.virginia.gov/reportcard>.

^{viii} See <http://applications.education.ky.gov/SRC/Default.aspx>.

to ensure that all students graduate with the academic, technical and workplace skills they need for success in postsecondary education, technical training and careers.

CTE endorsements on college- and career-ready diplomas, such as **Indiana**'s current Core 40 Technical Honors endorsement, are particularly powerful as they typically require a student to complete a rigorous academic course of study, complete a CTE pathway and earn an industry credential.^x To earn the Core 40 with Technical Honors diploma, students must complete:

- A college- and career-ready set of graduation requirements;
- A career-technical program (eight or more semesters of related credit); and
- Two of the following:
 - > Achieve certain scores on WorkKeys,
 - > Complete dual high school/college credit in a technical area,
 - > Complete a Professional Career Internship course or Cooperative Education course,
 - > Complete an industry-based work experience as part of a two-year CTE program, and/or
 - > Earn a state-approved, industry-recognized certification.

More common is for states to build industry-recognized credentials in their accountability systems as one way for students to meet a college- and career-ready benchmark. For example, as part of **Alabama**'s "phase II" implementation of its new accountability system in 2015–16, a number of additional components will be added to create a new performance index, including college and career readiness indicators and local indicators. Alabama defines a student as college or career ready if the student earns at least one of the following:

- Benchmark scores on the reading and math sections of the ACT test;
- Qualifying scores on an AP or IB exam;
- Approved transcribed college or postsecondary credit while in high school;
- Benchmark level on the ACT WorkKeys; or
- An approved industry credential.

Considerations and challenges

One drawback is that not all CTE pathways have an associated industry-recognized credential, preventing this from being a common measure across all CTE programs. The **Virginia** model proves to be instructive, with the inclusion of competency assessments (aligned to specific courses) and the work readiness assessment certificate. For example, the Agriculture, Food and Natural Resources Career Cluster includes very few commonly used industry-recognized credentials for secondary programs, while other Career Cluster areas—such as Health Science or Information Technology—offer a wide array from a range of transferable industry certifications.

It is important to note that not all industry-recognized credentials are of equal value to students and employers. States such as **Florida**, **Kansas** and **Missouri**, for example, are working to identify which industry credentials are rigorous and relevant enough to meet federal and state accountability requirements. What is most important is for states to work with their employers and economic development partners to ensure that they are incentivizing and valuing the credentials that have the best return on investment for students as evidenced by their clear and measurable value in the economy.

^x Indiana may propose a new CTE diploma with a different set of requirements.

Experiential Learning

Recommendations

States should encourage schools and districts and business and community partners to help students augment their academic course experiences by stepping outside the classroom to attain hands-on experience in a career field by including indicators that reflect student participation in work-based learning experiences, such as internships or pre-apprenticeship programs. While these work-based learning experiences do occur in many CTE programs, they are rarely required or incentivized in any formal way.

States should incentivize such experiences with a strong eye toward encouraging consistency and quality of experiential learning and ensuring that all students have access to high-quality opportunities. Certainly, to the extent that students are earning credits or student experiential learning is incentivized for schools and/or districts, it is critical that states issue clear guidance and have routines in place to ensure quality and consistency across schools and districts. States should identify and highlight effective practices in schools and districts to encourage all students to engage in experiential learning and to ensure that their experiences are high quality and align with rigorous standards and students' postsecondary aspirations. In particular, the states and their partners should play a role in identifying schools and districts that need additional support or partnerships to help students access these learning opportunities—and then work to connect them with businesses or organizations that can offer work-based opportunities to their students.

Taking a broader view of experiential learning, this group of indicators could also include college planning and exposure as well as participating in co-curricular activities such as Career Technical Student Organizations (CTSOs) or National Honors Society, which reinforce technical and academic learning. Going one step further, many co-curricular organizations host competitions in which students demonstrate a range of college- and career-ready skills—technical skills, speaking and listening skills, teamwork, and communications skills—which are validated and evaluated by members of the business and/or postsecondary communities. While these competitions may not be appropriate accountability formula measures, student participation and success in such activities are valid reporting indicators of student engagement and college and career readiness.

In **Massachusetts**, Connecting Activities (CA) is an initiative of the Department of Elementary and Secondary Education in partnership with the Executive Office of Labor and Workforce Development. It seeks to establish public-private partnerships through the 16 local workforce investment boards that connect schools and businesses to provide structured, work-based learning experiences for students that support both academic and employability skill attainment.

Examples of state use in public reporting and accountability

South Carolina stands out as the only state that includes the percentage of students participating in work-based learning experiences and percentage of CTE students participating in co-curricular organizations on the state report cards. **Maryland** releases an annual report on the total number of students engaging in work-based learning, broken down by the types of experiences (e.g., internships, mentorships, capstone cooperative work experience, service learning, etc.) and including some feedback data from the participating students and employers.^x

Considerations and challenges

No doubt, it would be challenging to build these indicators into an accountability formula without both a standardized way of evaluating or approving such experiences and a formal way of gathering such data, which

^x See <http://mdctedata.org/state/index.php>.

are currently largely self-reported. Yet, including these measures in public reporting can be a powerful way to encourage schools and districts to offer these opportunities to more students and presents a fuller picture of students' readiness both for college and careers.

Table 1: Use of Career-focused Indicators in Public Reporting and Accountability Systems

State	Public Reporting (School Report Cards)	Accountability System	
		Formula	Bonus Points
Alabama		Y	
Alaska	Y	Y	
Arkansas	Y		
California	Y		
Connecticut	Y		
Florida	Y	Y	
Georgia	Y	Y	Y
Idaho		Y	
Illinois		Y	Y
Indiana		Y	Y
Kansas	Y		
Kentucky	Y	Y	Y
Louisiana		Y	Y
Maryland	Y	Y	
Massachusetts	Y		
Michigan	Y		
Missouri	Y	Y	
Nevada	Y		
New Mexico	Y	Y	
New York*			*Reward School Identification
North Carolina	Y	Y	
Ohio	Y		
Oklahoma			Y
Oregon	Y		
Pennsylvania	Y	Y	Y
South Carolina	Y		
Texas	Y		
Virginia**	Y		Y
Washington	Y		
Total	22	14	9

**Graduation Requirement—Effective with the class entering 9th grade in 2013–14, Virginia students who earn a Standard Diploma must earn a Board-approved industry credential.

See Methodology section for information about how Achieve and NASDCTEc collected this publicly available information.

III. Trends Across States

How are states currently using career-focused readiness indicators in public reporting and accountability systems? We reviewed the district and school report cards that each state publishes on its public website^{xi} to learn how states are using career-focused readiness indicators in public reporting. We also reviewed each state's accountability formula for federal and/or state-level accountability determinations to examine how career-focused indicators are incorporated into school and district accountability. We did this for all 50 states and the District of Columbia, and several clear trends emerged across states.

Trend 1: More than Half of States Use Career-Focused Readiness Indicators

A total of 29 states publicly report a career-focused readiness indicator, build one or more into their accountability system, or both.

Public reporting. A total of 22 states publicly report on one or more indicator(s) of career readiness through their state report cards at the school or district level. The most common indicators used are those already collected by states for federal Carl D. Perkins Career and Technical Education Act reporting. For example, 14 states include CTE course participation and/or pathway completion data on their school-wide report cards. Two states (**Kentucky** and **Virginia**) include earning of industry certifications and two states (**Missouri** and **South Carolina**) include post-graduation placement for CTE students. **Oregon** and **Nevada** report the graduation rate disaggregated by CTE concentrators.

A few states also include other indicators of career readiness beyond what they are required to collect for federal accountability. Four states include dual enrollment participation (**Connecticut, North Carolina, Virginia** and **Washington**) and another four states report on dual enrollment credits earned (**Florida, New Mexico, Ohio** and **Texas**). Fifteen states include postsecondary enrollment through either student-reported plans (**Connecticut, Kansas, Massachusetts** and **Vermont**) or pulled from high school feedback reports (**Florida, Idaho, Kentucky, Maryland, Michigan, Missouri, New Jersey, Oklahoma, Oregon, Texas** and **Washington**). **Missouri** is the only state to disaggregate postsecondary enrollment data by enrollment at four-year institutions, two-year colleges, and postsecondary technical institutions. **Vermont** is the only state to disaggregate by institution type and also include joining the armed services or entering the workforce.

Indicators Found in Report Cards

- CTE participation
- CTE completion (pathway completion, concentrators)
- CTE diploma/endorsement
- Industry credentials
- Skills assessment
- Academic career-ready assessment
- Employability assessment
- Dual enrollment participation
- Dual enrollment credits earned
- Work-based learning
- CTSO participation
- Postsecondary enrollment rates

Some of the Other Indicators Found

- Students in college and career readiness planning
- Graduation rate/attainment of advanced diploma by CTE concentrators
- Placement rate for CTE completers
- Percentage of students enrolled in CTE courses who earn a 2.0 or above on the final course grade

^{xi} Including those on state education agency websites and those commissioned by the agency such as high school feedback reports and CTE-specific report cards.

A handful of states do maintain report cards specifically for their CTE programs or CTE career centers, either at the school or district level (not including local accountability reports for the federal Perkins Act grant program, which supports CTE efforts in states). **Ohio**, for example, offers report cards for each career technical planning district with information on the percentage of CTE graduates who earned an industry certification, passed a TSA or successfully earned dual enrollment credit, among other Perkins-required indicators. In most of these cases, however, states are just disaggregating their Perkins data by program area or, in a few cases, adding additional indicators, such as comparative data on specific program outcomes in the case of **Maryland**.

Finally, a few states include career-ready program-level—rather than student-level—data. **Illinois**, for example, lists all available CTE programs at each individual high school on the school report cards. **California** includes the percentage of CTE courses sequenced or articulated between secondary and postsecondary offered at each high school on the state report cards.

Accountability formulas. A total of 17 states use one or more career-focused readiness indicators in their accountability formulas. Six states include one or more career readiness indicators both as part of their formula and for bonus points. Eight states use an indicator for their formula only. In six states, career readiness indicator(s) are incorporated into the accountability system exclusively through bonus points (see Table 1 on page 13).

Across 17 states, a variety of indicators are in use in accountability formulas. Of these states, nine use an achievement indicator. In course completion and success, four states use a completion of course pathways indicator; 11 states use a dual enrollment indicator; nine states use an attainment indicator (i.e., industry certification); and three states use experiential learning indicators, such as co-ops and apprenticeships.

Trend 2: Some States Begin To Pave the Way for Systems Valuing College and Career Readiness

Even though more than half of states use at least one career-focused indicator in public reporting and/or accountability formulas, a few are paving the way to using a broad framework that encourages college and career readiness. In addition to Kentucky and Virginia (see page 10), **Georgia** and **Missouri** are the states with the most comprehensive approach to valuing career readiness for all students.

Georgia's new statewide accountability system, the College- and Career-Ready Performance Index (CCRPI), which was approved by the Elementary and Secondary Education Act (ESEA) waiver, rates each school on a 100-point scale informed by a wide array of performance indicators beyond statewide assessment scores. The indicators include the percentage of graduates earning high school credits for accelerated enrollment via ACCEL, Dual HOPE Grant, Move On when Ready, Early College, Gateway to College, Advanced Placement (AP) courses, or International Baccalaureate (IB) courses and the percentage of Career Technical and Agricultural Education (CTAE) Pathway Completers earning a national industry-recognized credential, an IB Career-Related Certificate or a passing score on a Georgia Department of Education-recognized end-of-pathway assessment (operational in 2014–15).

Georgia's bonus, or "Exceeding the Bar," indicators include the percentage of graduates completing a career-related work-based learning program or a career-related capstone project. All together, the set of post-high school readiness indicators accounts for up to 18 points. Schools can get additional points for earning a science, technology, engineering and mathematics (STEM) program certification or enrolling students in a college and career academy.



Missouri’s College and Career Readiness standard within the Missouri School Improvement Program (MSIP) includes six indicators. The first three indicators address whether adequate postsecondary preparation is being provided for all students as measured by assessments. These indicators measure the percentage of graduates scoring at or above the state standard on academic measures of college and career readiness—such as the ACT, SAT, COMPASS or ASVAB—and districts’ average composite scores on such measures. The Missouri Department of Elementary and Secondary Education will modify these indicators for the 2014–15 school year to allow Work-Keys to count towards these three indicators.

The fourth college and career readiness indicator is a measure of the percentage of graduates who earn a qualifying score on an AP, IB or Project Lead the Way assessment or receive a qualifying grade and college credit through early college, dual enrollment or approved dual credit courses. Additionally, this indicator includes the receipt of an industry-recognized credential as part of the state accountability system. The final indicators measure the percentage of graduates who attend postsecondary education/training, are in the military within six months of graduating, or complete career education programs approved by the state and are placed in occupations directly related to their training. It is highly unusual for a state to include any Perkins indicators in its accountability system beyond participation/completion and industry credentials.

While these states are leading the way in the use of career-focused indicators in accountability systems, it is critical that they also take the steps necessary to publicly report each individual component of the indicators (e.g., number/percentage of all students receiving an industry-recognized credential), not just the final number/percentage of students meeting one of several options within an indicator. It is also important that indicators with multiple options for students include options within the same area of the framework—for example, achievement measures or attainment measures.

Finally, it is important that these and all states ensure that the indicators have a substantial role to play in a school or district’s overall rating for accountability (e.g., include sufficient points to be meaningful) so that they are not an afterthought but a substantial driver. (See Section IV for additional considerations and guidance.)

Trend 3: Many States Are Emphasizing College or Career Accountability Indicators

While the states highlighted in the previous sections are developing more comprehensive systems of college- and career-ready indicators, most other states that are developing and implementing new college- and career-ready indicators are taking a narrower approach—with the consequence, intended or unintended, of incentivizing schools to help students meet either college or career readiness benchmarks. In most cases, students are able to demonstrate their college and career readiness (and earn their school points on this indicator) by meeting a single benchmark out of a range of options, such as earning AP/IB or dual enrollment credit, meeting the college-ready benchmark on ACT, earning an industry-recognized credential, or earning a career readiness certificate. This approach incentivizes schools to encourage students to meet or demonstrate only one dimension of college and career readiness rather than a more comprehensive set of indicators.

It is essential that accountability indicators measure whether students have mastered college- and career-ready academic knowledge and skills. Those measures tend to be found in academic assessments, like the assessments being developed by the Partnership for Assessment of Readiness for College and Careers and Smarter Balanced Assessment Consortium, which are designed for all students. But an accountability system aligned with the

full breadth of college and career readiness ought to also measure technical and employability skills using instruments like career-ready credentials. In some cases, these career-focused assessments will also be able to measure academics, although not the full range of college- and career-ready academics knowledge and skills. Each of these measures are important, but not sufficient, measures of college and career readiness. They are not substitutes for each other and should not be treated as such within an accountability system.

In fact, only six states have a “stand-alone” career-ready indicator for accountability formulas that all schools must meet. **Kentucky**, as described on page 10, does assign a bonus half-point for students who meet both the college-ready and career-ready indicators.

IV. Considerations for Selecting and Defining Career-Focused Readiness Indicators

States should keep in mind a number of important considerations while deciding which indicators to use in accountability and reporting systems—and how to use them.

The place to start is with the indicators that are needed to answer the most critical questions that policymakers, community leaders, educators and parents ask about student readiness for college and careers. States can also seek guidance by aligning their indicators to their priority goals, aligned in turn to economic and workforce needs, as well as their unique policy contexts.

To facilitate this decision making, states should ensure that a broad representation of stakeholders is involved in these decisions, reflecting not only state K–12 education leaders including CTE leadership, but also state workforce and economic development leaders, business leaders, community and technical college leaders, parents, and students. It is absolutely critical that indicators based on student completion of career pathways or programs of study, industry certification, etc. are deeply informed and monitored not only by state K–12 education agencies but also by workforce development agencies and investment boards, economic development oversight committees, etc.

Also, while it is critical to incorporate multiple measures along the continuum from toward to meeting to exceeding readiness, states should be cautious about including so many indicators that signals get muddled. Prioritizing indicators based on each state’s highest-priority goals is a good way to ensure that the focus remains.

States should take care to consider data availability, timeliness and state capacity before making final selections. For example, few states are leveraging data already collected and reported for Perkins in their statewide reporting and accountability systems.

Once states have arrived at a broad framework for which college- and career-ready indicators to use in public reporting and accountability systems, they should take care to define them in ways that ensure that the right signals are sent to schools and districts and that parents, policymakers and business leaders have the information they need.

For example, states should ensure that, to the extent possible, rates should be reported and used as the percentage of all students who are on track, meeting or exceeding readiness thresholds. Ideally, indicators would be reported as the percentage of a graduating cohort (with the same denominator used for the longitudinal graduation rate), a graduating class (with the denominator being the number of high school graduates), a certain grade

level or a whole high school. The indicators should reflect the opportunities for all students, not just students who are CTE concentrators, to access career preparation.

In addition, states should take care in how they combine different indicators into “meta-indicators” of career readiness, or college and career readiness, to ensure that the right signals are being sent and that the information is transparent. For example, if a state wished to have a single career-ready indicator that reflected the unduplicated rate of high school graduates who had met a career-ready threshold on an assessment, completed a pathway or attained industry certification, the state should, at a minimum, report the numbers or percentages of students who reach each of these independently. In this way, states can reinforce that each indicator is important and help those who use the data determine where progress is and is not being made.

STATE INNOVATION IN BUILDING INDICATORS OF COLLEGE AND CAREER READINESS IN A COMPETENCY-BASED SYSTEM

A number of states are making strides in shifting their education system from one based on time to ones based on competency. In these systems, all students are expected to master college- and career-ready standards before moving on to the next set of standards, and there is flexibility both in how students demonstrate their mastery and where they learn the standards—including opportunities outside the classroom. In such systems, there is a greater emphasis on ensuring that students not only master knowledge and skills necessary for college and career readiness but also apply knowledge and skills in real-world settings. As states advance toward competency-based systems, they have a great deal to learn from CTE, which has long been leading the way on competency-based education.

States will also have an opportunity to innovate in terms of the indicators they use to drive and monitor progress. These indicators will be based on information that could be more actionable than the information typically used in today’s accountability and public reporting systems—including real-time information about how well groups of students are performing on a set of standards or competencies rather than in an entire course and where they could be learning these standards or competencies in a learning setting outside of the classroom (such as work-based opportunities). Achieve’s state policy framework, *Advancing Competency-Based Pathways to College and Career Readiness*, outlines a number of critical questions for states as they design these indicators.^{xii}

^{xii} Achieve (July 2013). *Advancing Competency-Based Pathways to College and Career Readiness*. www.achieve.org/files/13-195%20Achieve_CBP_07018.pdf.

V. RECOMMENDATIONS

Recommendation 1:

Use multiple measures of college and career readiness.

While states have made progress in building measures of college and career readiness into their reporting and accountability systems over the past decade, no state has a reporting or accountability system that fully addresses and promotes the many facets of college and career readiness, in particular the academic, technical and employability skills that are critical to post-high school success.

Part of leveraging multiple measures is being careful not to overestimate the value of any single measure. There is no silver bullet or single measure that can evaluate this complicated construct. For example, while industry-based credentials may have significant value in the workplace, they measure only technical skills, not necessarily academic or employability skills. Similarly, summative college- and career-ready assessments can go only so far in measuring technical and employability skills.

States should consider requiring or encouraging students to meet multiple measures of college and career readiness, either through bonus points, additional weights or other incentives.

Recommendation 2:

Engage state CTE/college and career readiness leaders as well as workforce and economic development leaders.

Leaders from state CTE or college and career readiness offices should be at the table with accountability and reporting staff to select and refine indicators to include in public reporting and accountability formulas. Leaders should also work with data management staff to ensure strong data quality. Additionally, leaders from workforce and economic development, including leaders from community and technical colleges, should be at the table at every stage of the decision making—from selecting the indicators to include, to defining them to ensure consistency with state priorities and needs, to monitoring progress according to the indicators, to making decisions about policy, practice and resources.

Recommendation 3:

Find the appropriate balance of uses across public reporting and accountability.

Public reporting is a powerful lever for states to communicate to parents and community members about what is going on in their schools. This communication is critical to bolstering public trust in and support for schools and to ensuring that parents are empowered to make informed decisions about their children's educations. To ensure that attention is paid to all students, it is critical that all of the indicators of progress toward and beyond college and career readiness be calculated and disaggregated by students' race/ethnicity, family income, English language proficiency, and disability status. Public reporting can also serve to exert real pressure on those schools that are not meeting the needs of all students successfully.



Accountability systems that differentiate and classify schools and districts based on student performance are also very powerful tools that states can use to signal and incentivize progress based on what matters most for students. When considering which indicators to publicly report and/or include in an accountability system, states should consider publicly reporting indicators across the continuum of making progress toward, meeting and exceeding college and career readiness. The indicators of meeting college and career readiness should be those that are most likely to be included, most prominent or given greatest weight in accountability formulas. For instance, a state may include the percentage of students who attain an industry-certified credential in its accountability formula but also publicly report the percentage of students who earn a stacked, or Level II, industry credential.

Any indicator used in an accountability formula should also be reported publicly by school and district. States should clearly report on the sub indicators from their accountability systems so all stakeholders can understand the indicators being collected and students' performance on them. In many cases, accountability data are reported as a dichotomous (yes/no) indicator or are part of a weighted calculation, making them difficult to decipher. Plus, a number of states include a range of college- and career-ready measures in their new meta-indicators of college and career readiness but then miss the opportunity to include those measures on their report cards.

Recommendation 4: Use publicly reported information to inform decisions.

While relatively few states publicly report on indicators of career readiness, all states are collecting CTE-related data and reporting it to the U.S. Department of Education. States collect data on student performance as required by the Perkins Act, but the subsequent reporting is often done in a vacuum rather than integrated into statewide reporting and accountability (unlike states' collection of performance data for the ESEA). A simple start is to build some of these indicators into statewide report cards.

Of course, the inclusion of such indicators will not have any impact unless states, districts, schools and other stakeholders can use them to drive programmatic and funding decisions. For a school, understanding how it met its college- and career-ready benchmark is just as important as meeting it. For example, there are a number of policy considerations if certain schools are meeting the benchmark solely through the more traditional college-ready indicators, such as AP or statewide assessment scores, while others are doing so through more career-ready indicators, such as CTE pathway completion or industry credentials.

VI. CONCLUSION

Using this expanded framework for college and career readiness indicators as a guide, states can continuously improve their public reporting and accountability systems. They can better encourage schools and districts to help all students reach a college- and career-ready level of academic preparation while also encouraging them to help all students participate and succeed in career-focused experiences. While more than half of states currently include at least one career-focused indicator in their public reporting and/or accountability formulas, few states are on the way to building comprehensive systems that value both college and career readiness. Incorporating multiple indicators guided by critical questions, state economic/workforce priorities and context can go a long way toward states building more credible and effective systems that reflect a broad view of college and career readiness.

METHODOLOGY

The authors identified career-focused indicators in state accountability systems by examining approved state ESEA waiver applications and published accountability formulas and descriptions on state education agency websites. The most current accountability formula was used for this study. If a potential career-focused indicator was found, the authors noted the following characteristics:

- The definition of the indicator (e.g., dual credit, industry-approved certificate, achievement on an assessment, course pathways or other);
- Whether the indicator was part of the accountability formula or just publicly reported and its use in an accountability formula as “formula,” “bonus points” or both;
- Whether the career-focused indicator is a standalone indicator or is tied to achievement or attainment on other non-career-focused indicators (e.g., AP, IB or dual credit);
- Whether schools are held accountable for student participation and/or student success on the career-focused indicator;
- The year the career-focused indicator was included in the accountability formula;
- Whether the indicator is included at just the high school level or also at other levels;
- How the percentage of students achieving and/or participating in the indicator is established (i.e., the “denominator” of all high school graduates, percentage of all 11th graders, etc.); and
- The proportion of the state accountability formula for which the career-focused indicator is responsible.

This information was entered into an Excel spreadsheet and analyzed by Achieve and NASDCTEc staff.

The authors, with support from the College and Career Ready & Success (CCRS) Center, identified career-focused indicators in state reporting systems first by examining report cards on state education agency websites. The preferred unit of analysis was school-level reports. At the start of the analysis, the authors identified likely types of indicators—CTE participation and completion, CTE diploma endorsement, industry credential, skills assessment, academic career readiness assessment, dual enrollment participation and completion, and work-based learning opportunities—to guide the review process. After the initial search generated other types of report cards on certain state’s websites, such as high school feedback reports, CTE-specific report cards and accountability reports that differed from the state report cards, the authors expanded the scope of the review to include any report card that was hosted or commissioned by the state education agency. The analysis identified whether indicators were for all students, all graduates or only CTE students.

This information was entered into an Excel spreadsheet and analyzed by Achieve, NASDCTEc and CCRS Center staff.

GLOSSARY

Armed Services Vocational Aptitude Battery (ASVAB): A test that determines a recruit's eligibility to enlist in the military. The results of this test also are used to assign recruits to appropriate jobs within the military.

Career technical student organization (CTSO): A co-curricular organization that provides experiential learning for CTE students (often with chapters at both the secondary and postsecondary levels) through competitions and business partnerships. More than 2 million students are involved in CTSOs across the nation.

CTE concentrator (secondary level): A secondary student who has earned three or more credits in a single CTE program area (e.g., health care or business services) or two credits in a single CTE program area (but only in those program areas in which two-credit sequences at the secondary level are recognized by the state and/or its local eligible recipients).

CTE pathway: A sequence of academic, career and technical courses and training that begins as early as 9th grade and leads to progressively higher levels of education and higher-skilled positions in specific industries or occupational sectors.

Credential: An umbrella term used to capture the vast ecosystem of credentialing from industry-recognized to postsecondary.

Industry-based/industry-recognized certification: A credential awarded by a certification body, such as an industry association or company, based on an individual demonstrating, through an examination process, that he or she has acquired the designated knowledge, skills and abilities to perform a specific occupation or skill. The examination can be written, oral and/or performance based. Certification is a time-limited credential that is renewed through a recertification process.

Program of study: A coordinated, nonduplicative sequence of academic and technical courses from secondary to postsecondary that may include an opportunity for students to earn industry-based credentials, participate in dual enrollment courses and/or acquire postsecondary credits while in high school.

Stacked/stackable industry credential: A stackable credential is part of a sequence of credentials that can be accumulated over time to build up an individual's qualifications and help him or her to move along a career pathway or up a career ladder to different and potentially higher-paying jobs.

Technical skills assessment: A test used to evaluate CTE students' attainment of technical skills that is aligned to industry standards where available and appropriate. Technical skills assessments are typically given at the end of a CTE course or pathway.

Work readiness certificate: A verification, typically awarded by an educational institution, that a person has achieved and demonstrated a certain level of workplace employability skills that is applicable across industries and occupations.

Work-based learning: A type of learning experience, such as job shadowing, internship, apprenticeship or a service-learning project, that allows students to apply academic and technical knowledge and skills through real-world experience and engagement with adults outside of high school and gain experience working in an environment related to their CTE pathway.

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Michael Cohen

President
Achieve

Kimberly A. Green

Executive Director
National Association of State Directors of Career Technical Education Consortium



1400 16th Street NW, Suite 510
Washington, DC 20036

202.419.1540

www.achieve.org



8484 Georgia Avenue, Suite 320
Silver Spring, MD, 20910

301.588.9630

www.careertech.org