CREDENTIALS MATTER PHASE 2

A 2020 Update on Credential Attainment and Workforce Demand in America

September 2020

ExcelinEd

burningglass TECHNOLOGIES

ABOUT THE PROJECT

Credentials Matter is a partnership between Excel*in*Ed and Burning Glass Technologies. This ongoing, comprehensive research project combines Excel*in*Ed's policy expertise in college and career pathways with Burning Glass' cutting-edge labor market analytics to provide new insights into the alignment between the credentials students earn and the demand for those credentials in the workforce. Learn more at CredentialsMatter.org.

Launched by former Florida Governor Jeb Bush in 2008, the Foundation for Excellence in Education (Excel*in*Ed) supports state leaders in transforming education to unlock lifelong opportunity and success for each and every child. From policy development to implementation, Excel*in*Ed brings deep expertise and experience to customize education solutions for each state's unique needs. Focused on educational quality, innovation and opportunity, Excel*in*Ed's agenda is increasing student learning, advancing equity and readying graduates for college and career. Learn more at ExcelinEd.org.

Burning Glass Technologies delivers job market analytics that empower employers, workers and educators to make data-driven decisions. The company's artificial intelligence technology analyzes hundreds of millions of job postings and real-life career transitions to provide insight into workforce demand patterns. This real-time strategic intelligence offers crucial insights, such as which jobs are most in demand, the specific skills employers need and the career directions that offer the highest potential for workers. For more information, visit burning-glass.com.

SUGGESTED CITATION

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PROJECT UPDATE

PHASE 1

In May 2019, Credentials Matter launched CredentialsMatter.org, an interactive website with the most extensive collection and analysis of supply, demand and alignment of industry-recognized credentials in states to date. The accompanying report, Credentials Matter: A National Landscape of Credential Attainment Compared to Workforce Demand, details the data collection and analysis methodology as well as key findings and recommendations for states.

PHASE 2

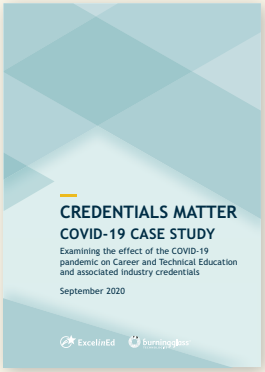
In this new phase, we have updated the website and published this new report to present and analyze current credential attainment data from across the nation. CredentialsMatter.org now offers:

- Updated and expanded credential attainment data to reflect the most recent findings and the fact that more states are beginning to collect data and
- Postsecondary credential attainment data to better explore the full impact of Career and Technical Education (CTE) pathways that begin in high school and terminate in postsecondary study.

OTHER CREDENTIALS MATTER RESEARCH

Credentials Matter: COVID-19 Case Study examines short-term changes in credential demand based on the economic ramifications of COVID-19 and analyzes factors that may continue to affect credential demand in potential future waves of the pandemic as well as throughout economic recovery. This report focuses on two research questions:

- How has COVID-19 shifted short-term employment demand nationally across occupations?
    - What are the trends by occupation and career cluster?
    - What factors have influenced these shifts?
- How has COVID-19 affected employer demand in the short-term for industry-recognized credentials earned by K-12 students?



RESEARCH QUESTIONS AND METHODOLOGY

This report and CredentialsMatter.org answer the following critical questions:

1. How many states are collecting data on student credential attainment, and what data collection methods are they using?
2. Which credentials are currently being earned by students, and how do those credentials align with employer demand?
3. How do states support credential attainment through: policy and funding, including financial investments and incentives; graduation requirements; and accountability or outcomes-based funding, where applicable?

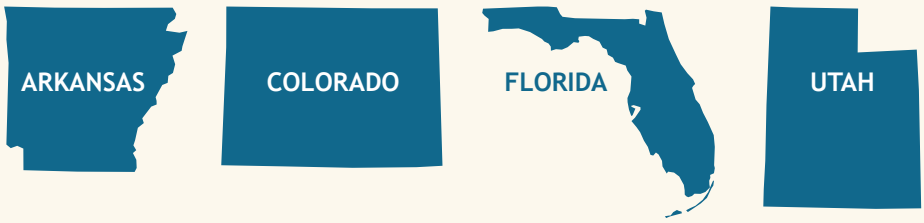
To answer these questions, this report uses four data collection and analyses methods: Supply Data Collection, Survey Data Collection, Demand Data Collection, Alignment Category.

SUPPLY DATA COLLECTION

We requested individual industry credential attainment data for the most recent year available, which was school year 2018-19 in most cases. Thirty states provided data at the K-12 level, and four states provided data at the postsecondary level.

The 30 states that provided quantitative K-12 credential attainment data used in this report and displayed on CredentialsMatter.org are: Alabama, Alaska, Arkansas, Colorado, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, Missouri, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Wisconsin and Wyoming.

The four states that provided quantitative postsecondary data are:



SURVEY DATA COLLECTION

One of the key differences between Phase 1 and Phase 2 is the development of a more robust state survey to contextualize credential work at the state level. Two largely similar surveys disseminated to states: one for K-12 contacts and one for postsecondary contacts. The surveys allowed for additional data collection on state credential policies and funding availability. We received responses from 46 states for K-12. Georgia, Minnesota, New York, Pennsylvania and West Virginia did not complete the survey. For postsecondary, we received responses from 29 states.[2]

DEMAND DATA COLLECTION

Demand data are from Burning Glass' proprietary database of job postings.[3] The demand for each credential is based on the number of job postings in which the credential appears in an occupation that commands a living wage, defined as at least $15 per hour or $30,000 per year.[4] This helps to eliminate focus on credentials that lead to low-paying careers.

ALIGNMENT CATEGORY (K-12)

The alignment category[5] is based on the following three factors:

- **PERCENT OF CREDENTIALS EARNED THAT ARE IN DEMAND:** The percent of credentials earned by students in a state that are in demand based on job postings.
- **PERCENT NOT SUPPLIED:** The percent of credentials demanded in state that are not earned by students.
- **DATA COLLECTION QUALITY:** The credential data collection source (directly from vendors or self-reported by educators), and the education system(s) that collect credential attainment data (K-12 and/or postsecondary).

This year, we updated the calculation for the "Percent Not Supplied" metric to stop penalizing states for not offering credentials at the K-12 level that require a high school diploma or require an age of 18 or over—including most Licenses and many medical credentials. This change accounts for some of the changes in states' alignment category between *Credentials Matter Phase 1* and *Credentials Matter Phase 2*.

1 A detailed description of the survey data collection process can be found in Appendix A.
2 The list of states completing the postsecondary survey can be found in Appendix A.
3 A detailed description of Burning Glass' demand data can be found on pages 24-25 of Credentials Matter - Phase 1.
4 Living wage occupations are based on median hourly wage data from the Bureau of Labor Statistics' https://www.bls.gov/oes/home.htm.
5 A detailed description of the alignment category methodology begins on page 90 of Credentials Matter - Phase 1.

KEY FINDINGS & UPDATES

This section outlines the key findings for both K-12 and postsecondary data. Findings are based on survey responses reported by states as well as quantitative credential attainment data submitted by states.

UPDATE SUMMARY

	PHASE 1 FINDINGS (2019)	PHASE 2 UPDATE (2020)
QUANTITATIVE DATA	**28 STATES** collect quantitative data on the attainment of credentials in K-12. **24 STATES** submitted data for *Credentials Matter* analysis.	**33 STATES** collect quantitative data on the attainment of credentials in K-12. **30 STATES** submitted data for *Credentials Matter* analysis.
CONSISTENT DEFINITIONS	States do not have consistent definitions for what constitutes an industry-recognized credential—even though U.S. high school students earn hundreds of thousands of credentials each year.	No change.
CREDENTIALS IN JOB LISTINGS	Many credentials are not explicitly requested in employer job listings, even though the credentials may be required or desired for the position.	No change.
ALIGNMENT WITH JOB MARKET	**NO STATE** is highly aligned in terms of supply for credentials earned by high school students and the demand for those credentials in the job market. **ONLY 19%** of the credentials earned by K-12 students in this analysis are demanded by U.S. employers.	**NO STATE** is highly aligned in terms of supply for credentials earned by high school students and the demand for those credentials in the job market. **ONLY 18%** of the credentials earned by K-12 students in this analysis are demanded by U.S. employers.
POSTSECONDARY DATA	Postsecondary data was not collected in Phase 1.	**ONLY 4 STATES** submitted postsecondary data. Most postsecondary systems are not currently collecting or aggregating credential attainment data.

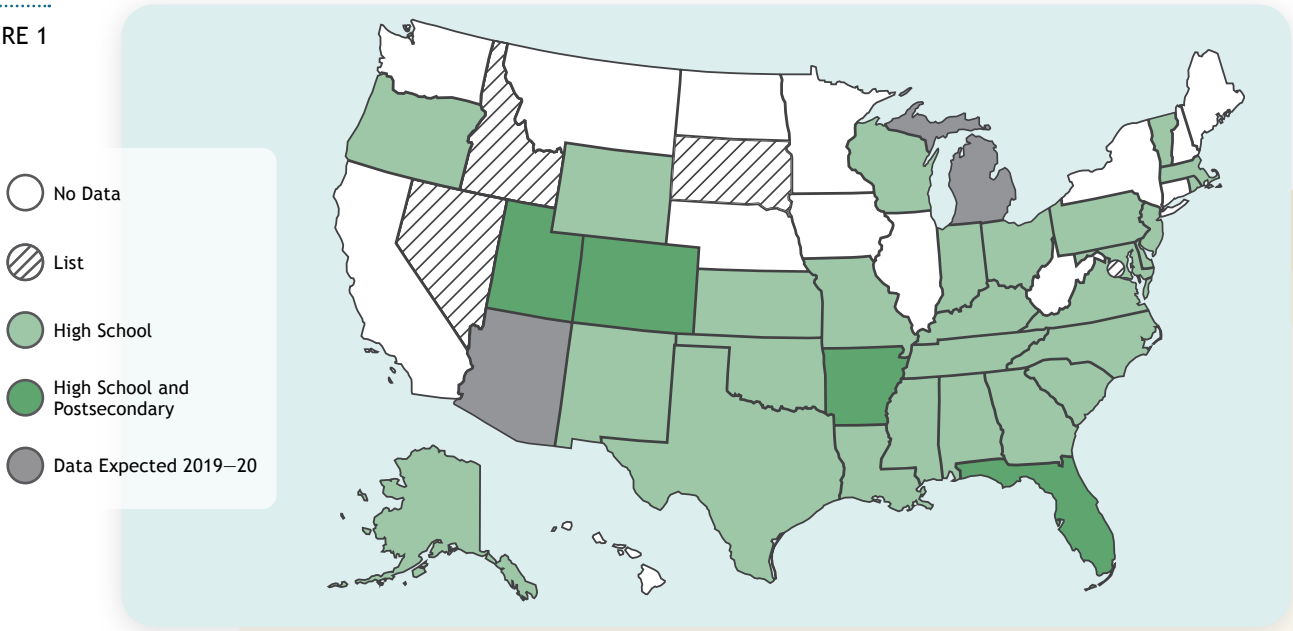
K-12 FINDINGS & UPDATES

HOW MANY STATES ARE COLLECTING DATA ON K-12 STUDENT CREDENTIAL ATTAINMENT, AND WHAT DATA COLLECTION METHODS ARE THEY USING?

1 THIRTY STATES SUBMITTED DATA ON THE 1,320,212 CREDENTIALS EARNED BY K-12 STUDENTS IN THEIR STATES.

STATES COLLECTING CREDENTIAL ATTAINMENT DATA

FIGURE 1



In Phase 1, we included K-12 credential attainment data from 24 states in our analysis. Seven additional states (Colorado, Kansas, Louisiana, Maryland, Massachusetts, Oregon and Wisconsin) submitted K-12 data for Phase 2. Three states that submitted data last year (Indiana, Pennsylvania and West Virginia) were unable to submit quantitative data in this phase.[6] Figure 1 above shows the status of data collection nationwide.

States should collect student-level data on individual credentials offered, attempted and earned. States that do not collect data have no way to assess the alignment of the credentials they offer- and the credentials students earn - with those demanded in the workforce.

6 We include last year's submissions for Indiana and Pennsylvania in the Credentials Matter analysis. West Virginia was removed from this year's analysis due to incomplete data.

2 MOST STATES (22) THAT COLLECT QUANTITATIVE ATTAINMENT DATA RELY ON SELF-REPORTED DATA RATHER THAN COLLECTING DATA DIRECTLY FROM VENDORS (11).

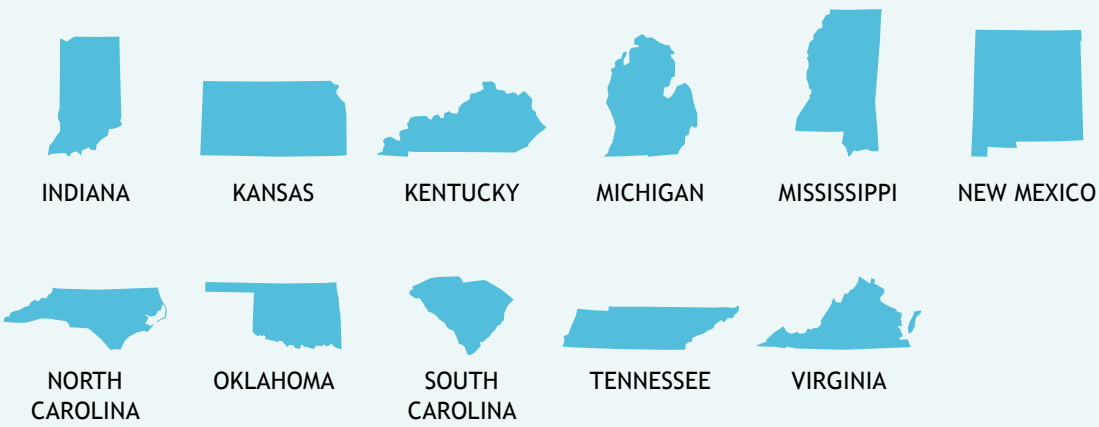
Figure 2 shows which states reported that they obtain credential data directly from credentialing vendors. As was the case in Phase 1, most states rely on self-reported data rather than collecting data directly from vendors.

Direct collection from vendors is almost always more accurate and comprehensive, but it requires substantial legwork and collaboration between the state and the vendor. Once implemented, though, it reduces the administrative burden of data entry and verification.

States should consider collecting data directly from vendors. States that use self-reported data risk collecting data that are at best incomplete and at worst incorrect or nonexistent.

FIGURE 2

11 STATES COLLECT DATA DIRECTLY FROM CREDENTIALING ENTITIES



- Most states **do not** collect data directly from vendors.
- **22 states** rely on self-reported credential data.

WHICH CREDENTIALS ARE CURRENTLY BEING EARNED BY STUDENTS, AND HOW DO THOSE CREDENTIALS ALIGN WITH EMPLOYER DEMAND?

Only 18%
of the credentials earned by K-12 students are demanded by employers.

3 SIX OF THE TOP 10 CREDENTIALS EARNED ARE *VERY OVER-SUPPLIED*.

The table below shows the top 10 credentials earned across analyzed states. Relative to Phase 1, the top credentials earned across states stayed largely the same. Eight of the top 10 Phase 2 credentials were also on the top 10 list in Phase 1. National Career Readiness Certificate (WorkKeys) and OSHA 10-Hour – General are new to the top 10 list in Phase 2, and NCCER – Carpentry and IC3 Certification have decreased in rank since Phase 1.

TOP 10 CREDENTIALS EARNED BY K-12 STUDENTS

TABLE 1

RANK / CREDENTIAL	TYPOLOGY	CREDENTIALS EARNED	STATE COUNT (OUT OF 30)	SUPPLY/DEMAND CATEGORY
1. Microsoft Office Specialist	Software	176,633	25	Very Undersupplied
2. NCCER - Core Curriculum	Certification	96,767	17	Very Oversupplied
3. W!SE Financial Literacy Certification	General Career Readiness	71,309	6	Very Oversupplied
4. Adobe Certified Associate	Software	67,658	25	Supply Meets Demand
5. Basic First Aid	General Career Readiness	65,032	15	Very Oversupplied
6. National Career Readiness Certificate (WorkKeys)	General Career Readiness	58,842	7	Very Oversupplied
7. Automotive Service Excellence Certification	Certification	45,237	29	Moderately Undersupplied
8. Virginia Workplace Readiness Skills for the Commonwealth	General Career Readiness	44,897	1	Very Oversupplied
9. OSHA 10-Hour - General	General Career Readiness	44,403	13	Very Oversupplied
10. ServSafe Certification (Manager/ Food Handler/Allergens/Alcohol)	Certification	37,380	22	Moderately Undersupplied

Certification · Software · General Career Readiness · License · CTE Assessment

Very Undersupplied · Moderately Undersupplied · Supply Meets Demand · Moderately Oversupplied · Very Oversupplied

4 ONLY THREE OF THE TOP 10 CREDENTIALS EARNED ARE AMONG THE TOP 10 CREDENTIALS DEMANDED BY EMPLOYERS.

The table below lists the 10 credentials most demanded by employers that are earned by students in K-12. Only three credentials—Microsoft Office Specialist, Adobe Certified Associate and Automotive Service Excellence Certification—appear on both the top 10 credentials earned list and the top 10 credentials demanded list.

TOP 10 CREDENTIALS DEMANDED BY EMPLOYERS

TABLE 2

RANK / CREDENTIAL	TYPOLOGY	CREDENTIALS DEMANDED
1. Microsoft Office Specialist	Software	3,240,303
2. NCLEX - Registered Nurse	License	2,404,163
3. Commercial Driver's License	License	1,244,582
4. Licensed Practical Nurse	License	406,908
5. Electrician License	License	267,885
6. Certified Medical Assistant	Certification	183,438
7. Adobe Certified Associate	Software	174,977
8. Adobe Certified Expert	Software	174,977
9. Dental Assistant	License	144,415
10. Automotive Service Excellence Certification	Certification	142,393

License Certification Software General Career Readiness CTE Assessment

Comparing these two tables illustrates that many students are earning over-supplied credentials rather than working toward and earning the credentials that are most demanded by employers.

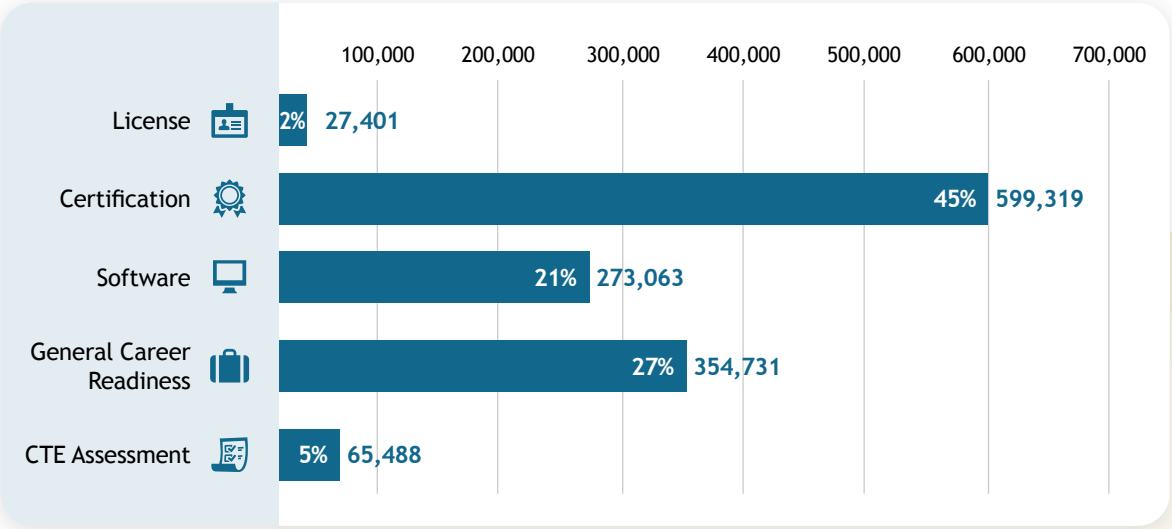
Education systems and students are investing substantial time and resources into earning these credentials. With better information, they would be able to pursue higher-value credentials that help them advance toward their long-term goals rather than spending their time earning credentials that are not in-demand or don't lead toward middle- and high-wage careers.

5 GENERAL CAREER READINESS CREDENTIALS MAKE UP 27% OF ALL CREDENTIALS EARNED IN OUR RESEARCH, BUT THEY OFTEN CARRY LITTLE WEIGHT IN THE LABOR MARKET.

Figure 3 shows a breakdown by credential type of all credentials earned across the data collected.

FIGURE 3

K-12 CREDENTIALS EARNED BY TYPOLOGY

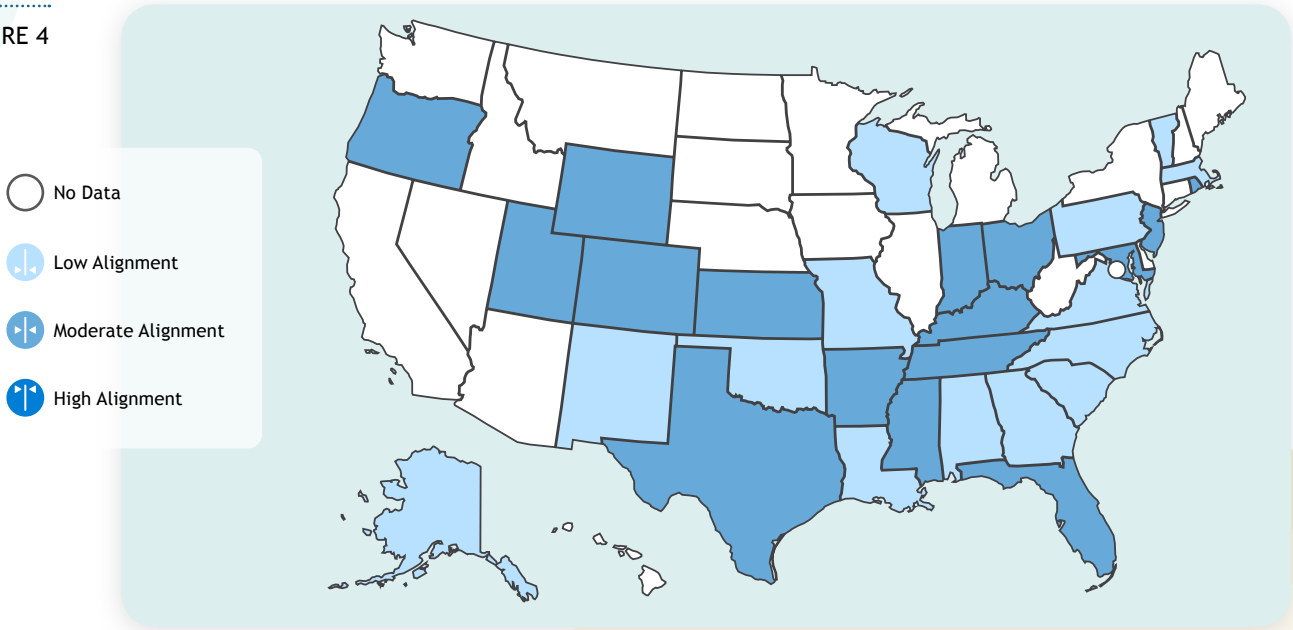


As was the case in Phase 1, many of the credentials earned are still General Career Readiness credentials. Unfortunately, General Career Readiness credentials are often either unnecessary to get a job or represent such a small fraction of the necessary knowledge and skills that holding one—without complementary credentials—does not lead to a clear or successful pathway in the workforce.

6 OF THE 30 STATES WE ANALYZED, NO STATE IS HIGHLY ALIGNED IN TERMS OF CREDENTIALS EARNED BY HIGH SCHOOL STUDENTS AND THE DEMAND FOR THOSE CREDENTIALS IN THE JOB MARKET.

ALIGNMENT OF CREDENTIALS EARNED IN K-12 WITH WORKFORCE DEMAND

FIGURE 4



As described in the methodology section in more detail, the alignment score for each state is based on three factors: % of credentials earned that are in-demand | % of credentials in-demand that are not earned | Data collection quality

Overall, there were minimal changes in alignment scores across states that collected data in both Phase 1 and Phase 2. No state has reached High Alignment; 16 of the 30 states are in Moderate Alignment; and 14 of the 30 are in Low Alignment.

Wyoming moved from Low Alignment in Phase 1 to Moderate Alignment in Phase 2, adding Automotive Service Excellence and Adobe credentials to those earned. Georgia reported many additional NOCTI credentials earned this year, which are not in-demand, bringing alignment from Moderate Alignment in Phase 1 to Low Alignment in Phase 2. Most other changes are due to the fact that in Phase 2 the alignment calculation stops penalizing states for students not earning Licenses or other credentials that require a high school diploma.

The prevalence of low and moderate state alignment reflects that many of the credentials earned by K-12 students carry little currency with employers, and therefore offer questionable career value to students.

In addition to highlighting the importance of demand-driven credential offerings, this finding also emphasizes the need for robust employer signaling to ensure that the credentials students earn are those that most support employers' workforce needs and open doors for students to middle- and higher-wage careers.

HOW DO STATES SUPPORT K-12 CREDENTIAL ATTAINMENT THROUGH POLICY AND FUNDING?

7 **MOST STATES MAINTAIN AN APPROVED CREDENTIAL LIST, BUT NOT ALL STATES UPDATE THE LIST ANNUALLY OR DEVELOP THE LIST IN PARTNERSHIP WITH EMPLOYERS.**

Thirty-five states said they maintain an approved list of K-12 industry-recognized credentials while 11 said they didn't. Most states (26) noted their list of approved credentials was updated annually, whereas three states reported updating their list every two years and six states had no regular update schedule. Many states (22) said they developed their list in partnership with Employers/ Industry; 26 said they developed the list in partnership with the Department of Workforce/Labor; and 13 said they developed the list in partnership with the Department of Higher Education.

States should consider establishing collaborative, recurring credential review and approval processes. States that do not risk promoting credentials that do not carry relevance in the labor market - or conversely, not promoting credentials valued in emerging industries.

8 **MOST STATES INCLUDE CREDENTIALS IN ACCOUNTABILITY SYSTEMS, BUT FEW INCLUDE THEM AS PART OF A GRADUATION REQUIREMENT OR SPECIAL GRADUATION DESIGNATION.**

More than half of states (31) reported that the state Department of Education included K-12 industry-recognized credential attainment measures in accountability systems. Specifically, 7 states reported that they are/will be included in the state's Perkins V plan secondary performance measures, 6 reported that they are included in ESSA and/or in additional state accountability and 16 reported both to be the case.

Fewer than half of states (14) reported that their state Department of Education includes K-12 industry-recognized credentials as part of a graduation requirement or special graduation designation.

Many states are integrating industry-recognized credentials into more comprehensive college and career readiness strategies that reward district, school and student outcomes.

However, states that establish inconsistent expectations and "lists" of qualifying (valued) credentials across various accountability and graduation policies risk creating competing priorities. Additionally, this may lead to perverse incentives that drive students to earn credentials that are not valued by employers.

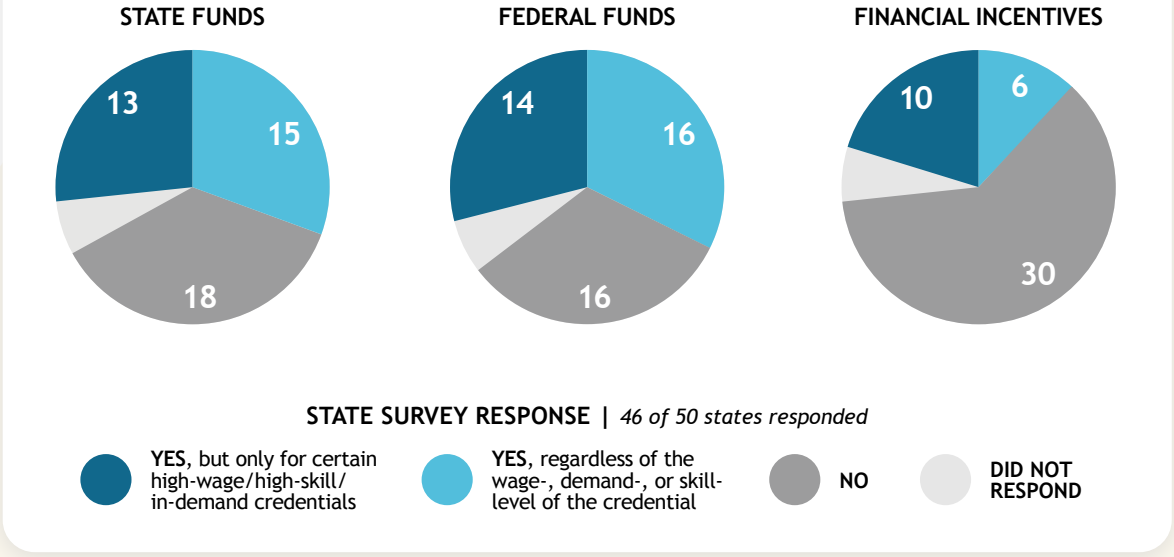
9 ABOUT HALF OF STATES WITH FEDERAL OR STATE FUNDS AVAILABLE FOR CREDENTIAL EXAM FEES STILL PROVIDE THESE FUNDS EVEN IF THE CREDENTIAL BEING EARNED IS LOW-WAGE, NOT IN DEMAND OR LOW-SKILL.

Table 3 shows the breakdown of states' responses to questions about the availability of state and federal funds and financial incentives. In 28 states, state funds are available for K-12 credential exam fees in some capacity. For 15 of these states, funds are available regardless of the wages, demand or skill level of the occupation(s) aligned with the credential. Thirty states make federal funds are available for K-12 credential exam fees, typically to remove cost barriers for students. Sixteen states award financial incentives based on K-12 credential attainment.

States should consider prioritizing the value of credentials in their funding and incentive structures. States that do not risk investing scarce financial resources in credentials (and aligned programs) with limited return on investment for students and state economies.

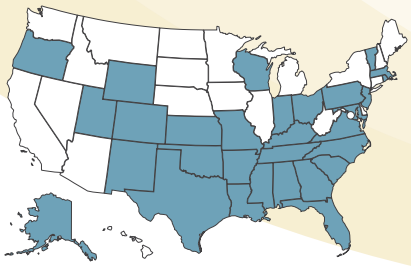
TABLE 3

STATES WITH K-12 FUNDING AVAILABILITY AND FINANCIAL INCENTIVES POLICIES

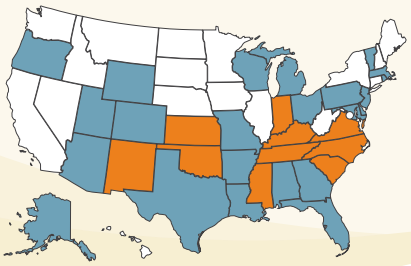


K-12 SUMMARY

HOW MANY STATES COLLECT DATA ON K-12 STUDENT CREDENTIAL ATTAINMENT? WHAT DATA COLLECTION METHODS DO THEY USE?



30 states submitted data on the **1,320,212 credentials earned** by K-12 students in their states.



22 states that collect quantitative K-12 credential attainment data rely on self-reported data. **Just 11 states collect data directly from vendors.**

WHICH CREDENTIALS ARE K-12 STUDENTS EARNING? HOW DO THOSE CREDENTIALS ALIGN WITH EMPLOYER DEMAND?

6 of the top 10 credentials
K-12 students earn are very over-supplied.

3 of the top 10 credentials
K-12 students earn are among the top 10 credentials demanded by employers.

0 states
are highly aligned in terms of supply for credentials earned by K-12 students and the demand for those credentials in the job market.

27% of credentials K-12 students earn are General Career Readiness credentials, which often carry little weight in the labor market.

HOW DOES STATE POLICY AND FUNDING INFLUENCE K-12 CREDENTIAL ATTAINMENT?

CREDENTIAL LISTS

Most states maintain an approved credential list, but these lists are not always updated annually or developed in partnership with employers.

FUNDING AVAILABILITY AND FINANCIAL INCENTIVES

About half of states that use federal or state funds to pay for student credential exam fees do so regardless of the credential's wage, skill or demand.

ACCOUNTABILITY SYSTEMS

Most states include credentials in accountability systems, but few include them as part of a graduation requirement or special graduation designation.

POSTSECONDARY FINDINGS

HOW MANY STATES ARE COLLECTING DATA ON POSTSECONDARY STUDENT CREDENTIAL ATTAINMENT, AND WHAT DATA COLLECTION METHODS ARE THEY USING?

1 **MOST POSTSECONDARY SYSTEMS DO NOT CURRENTLY COLLECT OR AGGREGATE CREDENTIAL ATTAINMENT DATA. ONLY FOUR STATES WERE ABLE TO SUBMIT POSTSECONDARY DATA.**

There were three primary reasons why states could not submit data.

① Classification of Instructional Programs (CIP) Code and Coursework Focus

In some cases, states collect partial or incomplete data more focused on coursework and associated CIP Code rather than credentials earned. For example, a state may know that a student completed coursework for a Welding Certificate- but would not know if the student subsequently took and passed associated credential exam(s) to earn the industry credential.

② Collecting Only Partial Data

Some states collect credential attainment data through survey data for specific purposes to be used by individual institutions, but they have no comprehensive data collection methods in place across their entire postsecondary system(s).

③ Siloes Across Postsecondary Systems

Postsecondary institutions are substantially more siloed than K-12 systems. We found that individual community colleges may collect credential attainment data, but they may not report them to the broader system or network of postsecondary institutions. K-12 CTE Directors also often could not identify an equivalent role in the postsecondary system, pointing to a lack of ownership of industry credential data collection at the postsecondary level.

States should collect postsecondary credential data. States that do not collect data have no way to assess the alignment of the credentials they offer- and the credentials students earn - with those demanded in the workforce. This creates a disadvantage for students who are investing time and money into earning these credentials and for employers in need of a qualified workforce.

WHICH CREDENTIALS ARE CURRENTLY BEING EARNED BY POSTSECONDARY STUDENTS, AND HOW DO THOSE CREDENTIALS ALIGN WITH EMPLOYER DEMAND?

2 ALMOST ALL (95%) OF THE POSTSECONDARY CREDENTIALS EARNED IN THE FOUR STATES THAT SUBMITTED DATA WERE LICENSES OR CERTIFICATIONS, TYPES THAT ARE MOST DIRECTLY ALIGNED TO OCCUPATIONS.

Compared to K-12, the top credentials earned across the four states that submitted postsecondary data are much more focused on Licenses and Certifications. Most postsecondary credentials earned are Certifications (54%) followed by Licenses (41%), with very few Software, General Career Readiness and CTE Assessments earned.

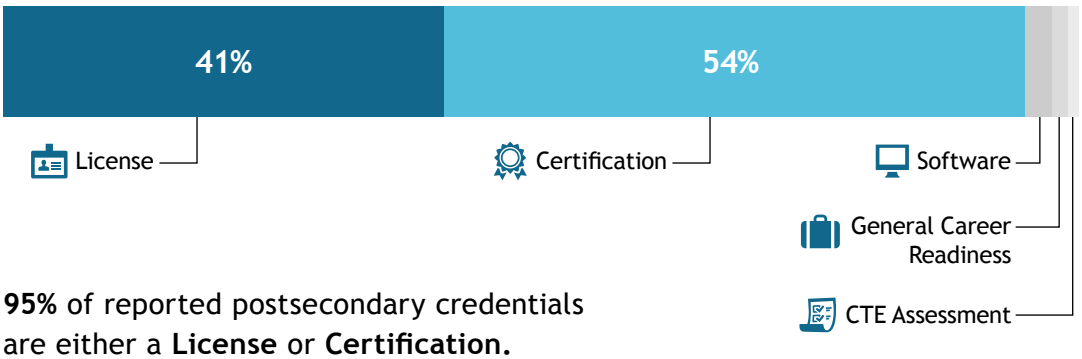
We found in Phase 1 that Certifications or Licenses are most likely to be directly requested by employers, in some cases because they are required for the occupation and in others because they are a strong signal to an employer that an applicant has mastered highly-valued skills. These credentials are often measuring skills that are directly applicable to their respective occupations.

The differences in the types of credentials that K-12 and postsecondary students earn highlight an opportunity for states to align high school and postsecondary offerings and to prioritize the credentials that carry the most value in the labor market.

While there is an opportunity for greater alignment, we expect some differences to persist across systems due to credentialing age or experience requirements (e.g., some require students to be 18 prior to sitting for the exam, thus making many high school students ineligible).

POSTSECONDARY CREDENTIALS EARNED BY TYPOLOGY

FIGURE 5



95% of reported postsecondary credentials are either a **License** or **Certification.**

3 THE TOP CREDENTIALS EARNED IN POSTSECONDARY GENERALLY ARE ALIGNED WITH OCCUPATIONS THAT COMMAND A LIVING WAGE, ALTHOUGH THERE ARE STILL SOME EARNED IN LOW-WAGE OCCUPATIONS.

As noted above, the top credentials earned in postsecondary are largely Licenses and Certifications. These credentials reflect varying levels of employer demand, except for those associated with occupations that do not command a living wage and some state-specific credentials.

TOP 15 CREDENTIALS DEMANDED BY EMPLOYERS

TABLE 4

RANK/CREDENTIAL	TYPOLOGY	CREDENTIALS EARNED	STATE COUNT (OUT OF 4)	NATIONAL DEMAND
1. NCLEX - Registered Nurse	License	5,373	2	2,546,882
2. EMT / Paramedic License	License	4,307	3	69,726
3. Florida Certified Law Enforcement Officer*	Certification	2,641	1	2,227
4. AWS Certified Welder	Certification	1,437	4	27,716
5. Licensed Practical Nurse	License	1,433	2	437,898
6. Florida Fire Fighter II*	Certification	1,425	1	548
7. Certified Nursing Assistant	Certification	1,373	3	0
8. Automotive Service Excellence Certification	Certification	1,137	4	147,122
9. HVAC Excellence Employment Ready	Certification	1,125	2	0
10. Florida Certified Correctional Officer*	Certification	982	1	291
11. Commercial Driver's License	License	684	2	1,240,536
12. Hair Stylist / Cosmetologist / Barber License	License	533	3	0
13. CompTIA A+	Certification	528	3	79,538
14. Microsoft Office Specialist	Software	472	2	3,275,966
15. Certified Respiratory Therapist	Certification	428	3	7,020

License Certification Software General Career Readiness CTE Assessment

*Note: *denotes credentials that are not also earned in K-12 based on the 30 states from which we have quantitative attainment data at the K-12 level.*

4 NOT ALL CREDENTIALS EARNED BY POSTSECONDARY STUDENTS ARE IN-DEMAND IN OCCUPATIONS THAT COMMAND A LIVING WAGE, DESPITE THE WIDER RANGE OF CREDENTIALS AVAILABLE TO POSTSECONDARY STUDENTS.

Because so few states provided postsecondary data, we could not calculate an alignment score based on postsecondary data. Instead, we use the percent of credentials earned in each state that are in-demand as a metric to assess each state's postsecondary credential alignment with employer demand.

The table below shows the total credentials earned and the percent of credentials earned that are in-demand for each state that provided postsecondary data. Utah had the highest percent of credentials earned that are in-demand (66%), followed by Florida (63%), Arkansas (58%) and Colorado (33%).

STATE SUMMARY OF POSTSECONDARY CREDENTIALS EARNED

TABLE 5

STATE	UNIQUE CREDENTIALS OFFERED	CREDENTIALS EARNED	PERCENT OF CREDENTIALS EARNED THAT ARE IN-DEMAND
Arkansas	33	4,357	58%
Colorado	49	2,701	33%
Florida	146	26,658	63%
Utah	21	925	66%

As stated above, the majority of the credentials earned by postsecondary students are Licenses and Certifications. However, there are differences across state in which type(s) of credentials are earned by postsecondary students, as shown in the table below.

POSTSECONDARY CREDENTIALS EARNED BY TYPE AND STATE

TABLE 6

STATE	LICENSE	CERTIFICATION	SOFTWARE	GENERAL CAREER READINESS
Arkansas	42%	40%	6%	12%
Colorado	36%	61%	0%	0%
Florida	43%	54%	3%	0%
Utah	0%	100%	0%	0%

UTAH's high percent of credentials earned in demand is largely driven by the fact that the top three credentials earned, AWS Certified Welder, CompTIA A+, and Certified Medical Assistant, make up 61% of the total credentials earned and are all in-demand. However, Utah did not report any Licenses earned by postsecondary students, which are often most directly tied to occupations.

Of the four states that provided postsecondary data, **FLORIDA** offers the highest number of unique credentials and reports the most credentials earned by students. Florida also has a high percent of credentials earned in demand. In the top 10 credentials earned in Florida, only two have no demand in living-wage occupations: Certified Nursing Assistant and HVAC Excellence Employment Ready.

Overall, **ARKANSAS** has a relatively high percent of credentials earned that are in-demand. However, Arkansas is also the only state of the four where postsecondary students earn General Career Readiness credentials. Two General Career Readiness Credentials, National Career Readiness Certificate (WorkKeys) and Basic First Aid are in the top 10 credentials earned by Arkansas' postsecondary students.

COLORADO offers the lowest percent of credentials earned in demand, at 33%. Five of the top 10 credentials earned in Colorado either are not demanded in occupations that command a living wage or do not appear specifically in job postings: Certified Nursing Assistant, Registered Phlebotomy Technician, Hair Stylist / Cosmetologist / Barber License, ARRT - Registered Radiography Technologist, and ADA - National Board Dental Hygiene Exam.

While the data from these four states cannot be extrapolated to highlight national trends in postsecondary credential attainment, it does highlight significant variation across these states in the number and type of credentials offered, earned and demanded. These differences illustrate the importance of further research and analysis of credential attainment and alignment as additional states' data become available.

HOW DO STATES SUPPORT POSTSECONDARY CREDENTIAL ATTAINMENT THROUGH POLICY AND FUNDING?

5 ONLY 11 STATES MAINTAIN A POSTSECONDARY LIST OF APPROVED CREDENTIALS.

Fewer states maintain a postsecondary list of approved credentials. Only 11 states reported that they maintain an approved list of postsecondary industry-recognized credentials while 18 states said they didn't. Seven states noted that their list of approved credentials is updated annually, and four indicated there is no regular update schedule in place.

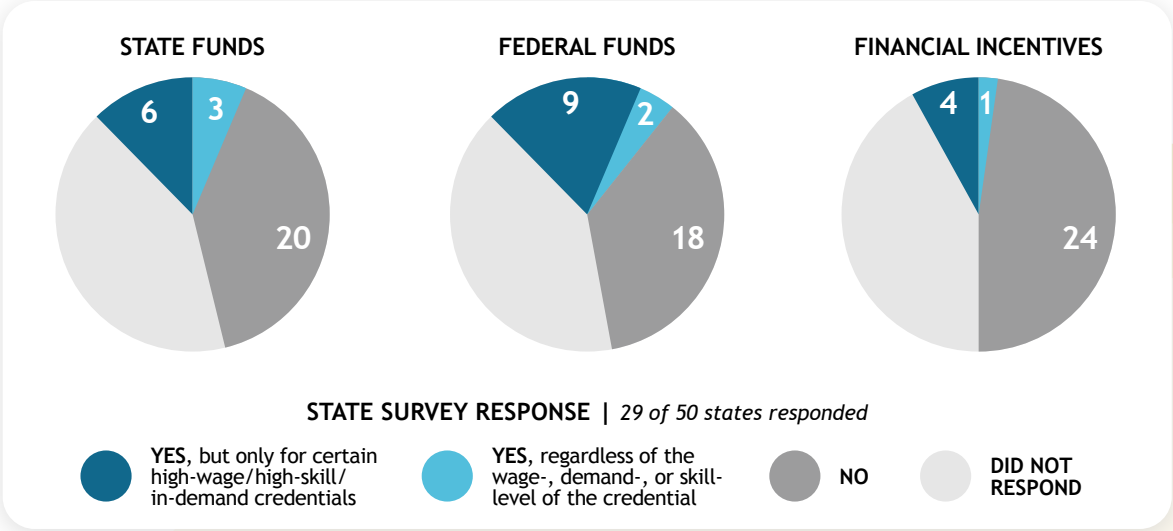
States should consider establishing collaborative, recurring credential review and approval processes. States that do not risk promoting credentials that do not carry relevance in the labor market - or conversely, not promoting credentials valued in emerging industries.

6 IN MOST STATES, STATE AND FEDERAL FUNDS AND FINANCIAL INCENTIVES ARE NOT DIRECTED TOWARD POSTSECONDARY CREDENTIAL ATTAINMENT.

Fewer states offer funding or financial incentives for postsecondary credentials relative to K-12. Only nine states report state funds are available, 11 report federal funds are available and 5 states report financial incentives are available based on credential attainment.

POSTSECONDARY FUNDING AVAILABILITY AND FINANCIAL INCENTIVES

TABLE 7



The survey also asked if each states' postsecondary funding formula rewards credential attainment.

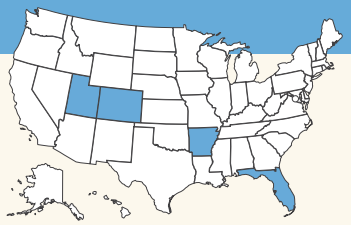
- In most states (20), the response was "**NO**."
- Seven states answered, "**YES**, for individual credential attainment;"
- Two states answered, "**YES**, but only when credential attainment is aligned with degree completion;" and
- Two states answered "**YES**, but only when credential attainment is aligned with degree completion or sub-associate program completion (for example certificates)."

The survey responses highlight that states use multiple funding mechanisms to support credential attainment, including covering fees for institutions or individuals or funding formulas that reward student outcomes.

States should consider prioritizing the value of credentials in their funding and incentive structures. States that do not risk investing scarce financial resources in credentials (and aligned programs) with limited return on investment for students and state economies.

POSTSECONDARY SUMMARY

HOW MANY STATES COLLECT DATA ON POSTSECONDARY STUDENT CREDENTIAL ATTAINMENT? WHAT DATA COLLECTION METHODS DO THEY USE?



4 states submitted postsecondary data. Most postsecondary systems are not currently collecting or aggregating credential attainment data.

WHICH CREDENTIALS ARE POSTSECONDARY STUDENTS EARNING? HOW DO THOSE CREDENTIALS ALIGN WITH EMPLOYER DEMAND?

95% of credentials postsecondary students earn are Licenses or Certifications, the types most directly aligned to occupations.

Some postsecondary students earn credentials that lead to **low-wage, low-demand occupations**, even though they have access to more credentials than K-12 students.

The top credentials postsecondary students earn generally reflect in-demand occupations that command a living wage.

HOW DOES STATE POLICY AND FUNDING INFLUENCE POSTSECONDARY CREDENTIAL ATTAINMENT?

CREDENTIAL LISTS

Only 11 states maintain a postsecondary list of approved credentials, but these lists are not always updated annually or developed in partnership with employers.

FUNDING AVAILABILITY AND FINANCIAL INCENTIVES

In most states, state and federal funds and financial incentives are not directed toward postsecondary credential attainment.

WHAT ARE BARRIERS TO COLLECTING POSTSECONDARY CREDENTIAL ATTAINMENT?

CLASSIFICATION OF INSTRUCTIONAL PROGRAMS (CIP) CODE AND COURSEWORK FOCUS

Many states focus their data collection on coursework and associated CIP but often do not track whether a student completes the necessary exam(s) to earn the credential.

COLLECTING ONLY PARTIAL DATA

States collect credential data for individual institutions but may not have comprehensive data collection methods in place across their entire postsecondary system(s).

SILOES ACROSS POSTSECONDARY SYSTEMS

Individual institutions may collect credential attainment data, but they may not report them to the broader system or network of postsecondary institutions.

RECOMMENDATIONS

Clearly communicate the value of credentials across sectors and audiences.

- Establish clear definitions and criteria for credentials of value—with business and industry at the table.
- Collect data on industry credential offerings and attainment across secondary and postsecondary systems.
- Strengthen data quality.
- Regularly evaluate and provide transparent reporting of student outcomes associated with credential attainment.
- Expand access to and equity in high-value career pathway and credential offerings.

STATE POLICY RECOMMENDATIONS FOR CONSIDERATION

1 ESTABLISH CLEAR DEFINITIONS AND CRITERIA FOR CREDENTIALS OF VALUE—WITH BUSINESS AND INDUSTRY AT THE TABLE.

Clear definitions[7] help ensure that all stakeholders (agencies, employers, students, etc.) use a common framework and language to understand the knowledge and skills represented by each credential. Consistent, rigorous criteria for each definition help all stakeholders understand the value associated with each credential in the labor market in terms of employment, wage premia and career advancement. These definitions and criteria should align with established skill, wage and demand criteria used to determine the state's priority occupations and industries.

States can codify a process[8] that leverages these definitions and criteria to annually review, identify and approve the state's valued credentials across K-12, postsecondary and workforce development systems.

STATES THAT SET CLEAR DEFINITIONS AND CRITERIA

PROMOTE HIGH-VALUE CREDENTIALS that carry currency with employers and lead to improved outcomes for students and state economies.

ADDRESS EXISTING SKILLS GAPS and identify new or emerging occupations.

PROVIDE CLEAR SIGNALS about the value of credentials.

KEY STAKEHOLDERS

K-12, postsecondary, labor and economic development, employers

7 Definitions can help differentiate across dimensions such as credential type (Licenses, Certifications, Software, General Career Readiness, CTE Assessments, etc.); credential level (building block, stackable, skill mastery, etc.) – which can be used to determine how credentials align with content standards across K-12, postsecondary and workforce programs.

8 Building Credential Currency Toolkit (Education Strategy Group) provides a strong framework for this work.

2 COLLECT DATA ON INDUSTRY CREDENTIAL OFFERINGS AND ATTAINMENT ACROSS K-12 AND POSTSECONDARY SYSTEMS.

Credential offerings data provide insights into the alignment of credentials and career pathways (including CTE programs) with workforce needs. Credential attainment data provides insights into local program quality and equity in student access and success. States can establish consistent student-level credential data collection responsibilities, expectations, business rules and reporting processes across K-12 and postsecondary systems. Once collected, these data allow states to analyze the statewide landscape of credential offerings and attainment – in other words, the state's talent pipeline – and develop strategies to increase alignment, improve quality, ensure equity and maximize return on investment across systems.

STATES THAT COLLECT CREDENTIAL OFFERINGS AND ATTAINMENT DATA

KNOW WHICH CREDENTIALS are being offered and which students earn each credential.

CAN ANALYZE THE ALIGNMENT between the credentials students earn and the credentials employers value.

CAN DEVELOP DATA-DRIVEN STRATEGIES to increase alignment, quality and equity in local offerings.

KEY STAKEHOLDERS

K-12, postsecondary, credentialing entities

3 STRENGTHEN DATA QUALITY.

High-quality credential data are reliable, valid, complete and consistent. Collecting credential data directly from credentialing entities (rather collecting self-reported data) significantly increases credential data quality. Complete credential data includes information about individual students' credential attempts, attainment and raw scores, where available. It also contains sufficient personally identifiable information[9] that allow states to match student-level credential data with student records across K-12, postsecondary and longitudinal data systems.

States can establish data-sharing agreements with vendors of the state's valued credentials to directly collect individual student attainment data and eliminate or minimize self-reporting. States could consider developing statewide data-sharing agreements that span K-12 and postsecondary systems and students. They can also harness collective buying power by collaborating with other states to negotiate data-sharing agreements with credentialing entities that increase administrative efficiency and data consistency.

STATES THAT STRENGTHEN DATA QUALITY

MAKE DECISIONS and develop strategies based on more valid, reliable and complete credential data.

REMOVE THE ADMINISTRATIVE BURDEN of self-reporting credential data for local educators and administrators.

INTEGRATE HIGH-QUALITY DATA into longitudinal systems to analyze quality, equity, impact and return on investment of specific credentials and aligned career pathways.

CAN LEVERAGE DATA on credentials earned, failed attempts and raw scores to improve instruction and professional development.

KEY STAKEHOLDERS

K-12, postsecondary, credentialing entities

9 Examples of personally identifiable information include: full legal name, date of birth, address, driver license number, student identification number(s), high school name and number, postsecondary institution name and number, etc.

4 REGULARLY EVALUATE AND PROVIDE TRANSPARENT REPORTING OF STUDENT OUTCOMES ASSOCIATED WITH CREDENTIAL ATTAINMENT.

States should publicly report student credential attainment data that can be disaggregated by district, school, postsecondary institution, career pathway/program, student group(s) and long-term outcomes related to educational attainment, employment and wages. Transparent reporting should allow stakeholders to differentiate between high-value and lower-value credentials, understand the workforce outcomes of students who earn each credential, and compare the program quality and equity. Students and families can use this information to make more informed choices about the career opportunities, pathways and credentials they pursue.

Additionally, states should align all applicable federal and state accountability and transparency systems to leverage the state's high-value credential criteria and data collection processes. This helps to prioritize high-value credential attainment across schools, districts and postsecondary institutions – and eliminate mixed messages and unintended incentives. This may require states to identify and revise or remove policy, accountability and/or funding structures that currently promote low-value credentials.

STATES THAT EVALUATE AND REPORT CREDENTIAL ATTAINMENT DATA

PROVIDE CONSISTENT INFORMATION to all stakeholders about the effectiveness and impact of credential attainment on long-term student outcomes.

EMPHASIZE THE IMPORTANCE OF EQUITY in access and outcomes across student groups and communities.

PRIORITIZE HIGH-VALUE CREDENTIAL attainment by aligning accountability and transparency measures across agencies.

KEY STAKEHOLDERS

K-12, postsecondary, labor and economic development, employers, students and families

10 These can include but are not limited to: statewide education attainment goals, ESSA, Perkins V, WIOA, state accountability and report cards, etc.)

5 EXPAND ACCESS TO AND EQUITY IN HIGH-VALUE CAREER PATHWAY AND CREDENTIAL OFFERINGS.

States should incorporate high-quality, student-level credential data into a regular audit[11] of the state's CTE program. This includes an analysis of trends across schools/institutions and student groups[12] in terms of access, aligned program enrollment and high-value credential attainment. This analysis helps to identify equity gaps and develop strategies to support all students in earning high-value credentials – and ensure that specific groups of students are not being "tracked" into programs that lead to low-value credentials and dead-end, low-wage jobs.

States should develop strategies to remove identified barriers that prevent students from earning valued credentials[13]. For example, states can remove financial barriers for students by providing recurring funding to offset fees associated with high-value credential exams. They can also develop policies and/or allocate funding to leverage resources[14] across K-12 and postsecondary systems to increase high-value credential attainment.

States can prioritize high-value credential attainment and equity by investing new funds or restructuring existing funding mechanisms. They can develop or expand a credential incentive policy[15] that financially rewards K-12 schools and/or postsecondary institutions based on high-value credential attainment. They can also incorporate high-value credential attainment (performance-based funding) into postsecondary funding structures.

STATES THAT EXPAND ACCESS TO AND EQUITY IN HIGH-VALUE CREDENTIAL OFFERINGS

ENSURE THAT ALL STUDENTS can earn credentials that lead to high-skill, high-wage, in-demand careers.

CLOSE SKILLS GAPS by increasing the number of students with the knowledge and skills valued by employers.

EXPAND THE STATE'S SKILLED TALENT pipeline to reflect the state's diversity.

KEY STAKEHOLDERS

K-12, postsecondary, credentialing entities

11 ExcelinEd - Auditing a State CTE Program for Quality, 2018
12 For example: race, gender, family income, disability status, home language, etc.
13 Barriers may include, but are not limited to: state and local policies, access, program capacity, program quality, exam cost, age requirements or transportation
14 Resources may include, but are not limited to: faculty, facilities/equipment, testing site availability, etc.)
15 ExcelinEd's Industry Credential Incentive Model Policy

6 CLEARLY COMMUNICATE THE VALUE OF CREDENTIALS ACROSS SECTORS AND AUDIENCES.

All stakeholders – students and families first among them – need consistent, complete information about credentials to drive their decisions. However, there is not a single source of complete information about the potential opportunities, costs and benefits of each credential. States can play an important role in engaging stakeholders to synthesize and disseminate actionable and consistent information about the value, benefits, costs, risks and opportunities associated with each credential – and the larger role that credentials play in students' college and career readiness.

K-12, postsecondary and workforce development systems should clearly communicate how each credential fits into a career pathway. Postsecondary systems can develop consistent statewide policies that determine how credentials can be used to award postsecondary credits and/or hours within specific courses, programs or degrees. Credentialing entities should communicate the knowledge and skills measured by each credential, as well as any changes to the credentials offered. Employers should articulate hiring, wage and advancement advantages related to specific credentials, and improve employer signaling and consistency by clarifying required credentials and skills in job postings.

STATES THAT CLEARLY COMMUNICATE THE VALUE OF CREDENTIALS

EMPOWER ALL STAKEHOLDERS to make informed decisions about their investments in credentials and aligned career pathways.

SEND CONSISTENT MESSAGES about the content, value and opportunities offered by each credential across K-12, postsecondary and workforce development systems.

MAINTAIN STRONG PARTNERSHIPS with all stakeholders to ensure career pathways and credentials are responsive to workforce needs.

KEY STAKEHOLDERS

K-12, postsecondary, labor and economic development, employers, credentialing entities, students and families

CRITICAL PARTNERS

Business and industry and credentialing entities have an integral role to play in helping implement the recommendations outlined above.

BUSINESS AND INDUSTRY

- Improve employer signaling and consistency by identifying required credentials and skills in job postings, distinguishing between required and nice-to-have credentials in job postings, and articulating wage increases and advancement potential associated with specific credentials.
- Work with education systems, community partners or intermediaries to help them understand the hiring and wage advantages of specific industry credentials.
- Leverage the power of industry associations to help credentialing entities ensure credentials reflect the knowledge and skills required for success in jobs in each industry.

CREDENTIALING ENTITIES

- Clarify the knowledge and skills encapsulated within each credential offered.
- Provide an early signal about plans to change credential offerings[16] to allow systems to adjust their offerings.
- Increase capacity and willingness to enter into data-sharing agreements that provide states with complete, high-quality data that can be matched with student information systems.

16 Changes in offerings may include, but is not limited to: retiring credentials, replacing content, launching new credentials

WHAT'S NEXT

Leveraging the research partnership with Burning Glass, Excel*in*Ed will continue its work with state policymakers to improve access to and equitable distribution of high-quality pathways and valued credentials for students. However for Phase 3, Excel*in*Ed will expand the *Credentials Matter* audience to include those most impacted by pathway and credentialing decisions: **students and families.**

APPENDIX A: SURVEY METHODOLOGY

The *Credentials Matter Phase 1* Report includes detailed information on credential definitions, state data collection, credential attainment and demand data from job postings. Detailed explanations can be found on pages 20-25, 85-92 (Appendix B) of the Phase 1 report. This methodology section describes new data collection and updates made to the methodology in Phase 2.

SURVEY DATA COLLECTION

One of the key differences between Phase 1 and Phase 2 is the development of a more robust state scan survey to aid in contextualizing credential work at the state level. Two largely similar surveys were created for dissemination to states: one for K-12 contacts and one for postsecondary contacts. The surveys allowed for additional data collection on state credential policies and funding availability.

TIMELINE

Initial outreach began on January 21, 2020. All contacts, including those identified in Phase 1, received a link to the survey as well as an email detailing the goals of the project. The deadline for survey completion was April 30, 2020, resulting in a total time allotted for data collection of approximately three months. During this period, COVID-19 impacted some data availability and state agencies' ability to respond to the request for information.

CONTENTS

Both the K-12 and postsecondary surveys took 10-15 minutes to complete. The K-12 survey consisted of 22 questions, and the postsecondary survey consisted of 21 questions. In addition to the credential policy-related survey questions, both surveys asked participants to provide background information on their roles and contact information for other systems, where relevant. Each survey also included an open-text section where participants could add additional information about their state's industry credential work. Skip logic was used to ensure the survey questions did not ask something already answered.

RECRUITING AND OUTREACH

The K-12 survey was targeted to each state's CTE Director in the Department of Education. For postsecondary, state contacts included CTE Directors or equivalents in departments such as the Department of Higher Education, the Community College Association or the Technical College System. Initial outreach was sent via email to 102 K-12 contacts and 98 postsecondary contacts. We reached out to additional contacts based on new contact information from states, and weekly email reminders were sent to unresponsive states. CTE Directors were also contacted by phone as needed. We received responses from 46 states for K-12. Georgia, Pennsylvania, New York, West Virginia and Minnesota did not complete the survey. For postsecondary, we received responses from 29 states.

DATA COLLECTION SUMMARY

STATE	K-12 DATA	K-12 SURVEY	POSTSECONDARY DATA	POSTSECONDARY SURVEY
Alabama	✓	✓	✗	✓
Alaska	✓	✓	✗	✗
Arizona	✗	✓	✗	✗
Arkansas	✓	✓	✓	✓
California	✗	✓	✗	✓
Colorado	✓	✓	✓	✓
Connecticut	✗	✓	✗	✗
Delaware	✗	✓	✗	✓
District of Columbia	✗	✓	✗	✓
Florida	✓	✓	✓	✓
Georgia	✓	✗	✗	✓
Hawaii	✓	✓	✗	✗
Idaho	✗	✓	✗	✓
Illinois	✗	✓	✗	✗
Indiana	✓ *	✓	✗	✓
Iowa	✗	✓	✗	✓
Kansas	✓	✓	✗	✗
Kentucky	✓	✓	✗	✗
Louisiana	✓	✓	✗	✗
Maine	✗	✓	✗	✓
Maryland	✓	✓	✗	✗
Massachusetts	✓	✓	✗	✗
Michigan	✗	✓	✗	✓
Minnesota	✗	✗	✗	✗
Mississippi	✓	✓	✗	✗
Missouri	✓	✓	✗	✓

DATA COLLECTION SUMMARY

STATE	K-12 DATA	K-12 SURVEY	POSTSECONDARY DATA	POSTSECONDARY SURVEY
Montana	✗	✓	✗	✓
Nebraska	✗	✓	✗	✗
Nevada	✗	✓	✗	✗
New Hampshire	✗	✓	✗	✓
New Jersey	✓	✓	✗	✗
New Mexico	✓	✓	✗	✗
New York	✗	✗	✗	✗
North Carolina	✓	✓	✗	✗
North Dakota	✗	✓	✗	✓
Ohio	✓	✓	✗	✓
Oklahoma	✓	✓	✗	✓
Oregon	✓	✓	✗	✗
Pennsylvania	✓ *	✗	✗	✗
Rhode Island	✓	✓	✗	✓
South Carolina	✓	✓	✗	✓
South Dakota	✗	✓	✗	✓
Tennessee	✓	✓	✗	✓
Texas	✓	✓	✗	✓
Utah	✓	✓	✓	✓
Vermont	✓	✓	✗	✓
Virginia	✓	✓	✗	✗
Washington	✗	✓	✗	✓
West Virginia	✗	✗	✗	✗
Wisconsin	✓	✓	✗	✓
Wyoming	✓	✓	✗	✓

** Indiana and Pennsylvania submitted K-12 quantitative data for Phase 1 but not Phase 2. This report uses their data submission from Phase 1.*