

# Fostering a Culture of Data Use

**Fostering a positive culture of postsecondary Career Technical Education (CTE) data use entails building a shared mindset and set of expectations around the role of institutional data in informing policy, setting instructional priorities and driving improvement.**

Culture describes the collective beliefs, values and behaviors of a group of people. While often associated with religious customs or societal norms, culture also can describe the ways in which organizations such as state education agencies, governance bodies and postsecondary institutions operate. One specific area of organizational culture relates to how state leaders, as well as college faculty and staff, interpret and apply data on CTE programming.

The Strengthening Career and Technical Education for the 21st Century Act (Perkins V) requires postsecondary institutions to report a wealth of data on the characteristics of students achieving a threshold level of CTE coursework. Institutions failing to



**States and institutions risk being “data rich and information poor” if data is not leveraged to guide decisionmaking and improve student success.**

achieve state-established performance levels must implement improvement plans to ensure continued resource eligibility. This emphasis on compliance reporting often has caused postsecondary CTE data to be associated with negative consequences, yet there is great value in shifting this mindset to unlock the true power of CTE data.

With support from ECMC Foundation, Advance CTE launched the Advancing Postsecondary CTE Data Quality Initiative (PDI) in 2020 and is working with a group of states to improve postsecondary CTE data quality and use. Alabama, Delaware, the District of Columbia, Florida and Oregon were selected to form a cohort focused on improving the quality of data collected on postsecondary CTE programs. Cohort work has centered on using data to improve CTE program offerings, strengthen outcomes equitably across learner groups and special populations, and align the interests of learners with industry and programmatic needs.

This brief, the third in this series, examines three strategies for making data an integral and beneficial part of state and institutional climates, using examples from states participating in the PDI to illustrate innovative approaches.

The topics include demystifying data to help college administrators and faculty understand why CTE data is collected and how it can be used, shifting from a compliance to an improvement mindset to motivate people to use data, and investing in data literacy to ensure that stakeholders understand how to interpret and apply data.

## STRATEGY ONE Demystifying data

Demystifying data begins with breaking down information silos to build consensus around what data is and why it matters. State education agencies and institutions often compartmentalize data analysts rather than create intentional opportunities for collaboration and coordination. As profiled in the second brief in this series, *Centering the Learner Experience*, engaging with state administrators and faculty to understand their information needs can help to make data a trusted resource. Some strategies to promote culture change include:

**A data-driven organizational culture starts at the top. Shifts are more likely to be sustained if institutional leaders actively promote the value of data.**



### **Encourage agency and institutional analysts to engage with departmental teams.**

Making cross-office connections can sensitize analysts to state administrators' and college faculties' data needs and preferred communication vehicles. This knowledge can lead to the creation of new metrics, streamlined information flows and improved communications tools to support end-users in translating statistics into actionable strategies.

### **Educate state administrators and college faculty on data systems capabilities.**

Helping end-users understand how data elements are defined and collected can promote data literacy, build trust, and identify information gaps that can be filled. This understanding can also strengthen data quality if instructors change their behaviors to report more accurate information on a timely, consistent basis.

## FLORIDA'S WORK-BASED LEARNING (WBL) COMPONENTS

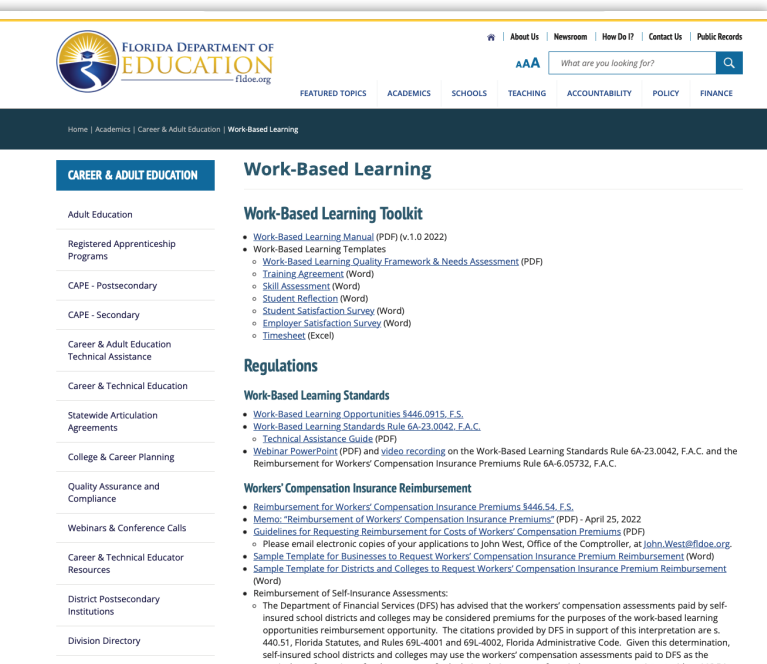
Florida leveraged its PDI project funding to create a postsecondary work-based learning (WBL) group to explore existing data elements and propose new metrics. The membership of the group included representatives from CTE districts, colleges, the University of South Florida and workforce development. Members collaborated to survey the field on data needs, create training materials, and host a series of webinars to clarify data definitions and procedures for streamlined data collection and reporting. Based on feedback, three new data elements related to the minimum number of hours worked, compensation, and location of WBL were developed. A website highlighting WBL standards, state investments, and a toolkit was recently launched to help communicate the benefits of WBL to stakeholders.

## Clarify data collection purposes and routinize procedures.

State postsecondary education agency and institutional department chairs and faculty are asked to submit data for a variety of purposes, not all of which may be clearly understood. Organizational leaders can develop submission requirements that include a clear explanation of why the data is collected and best practices for submission. When individuals understand the rationale for an ask, they are more likely to invest time to fulfill the request.

## Enlist data champions to promote buy-in.

A data-driven organizational culture starts at the top. Shifts are more likely to be sustained if state education agency and institutional leaders actively promote the value of data.<sup>1</sup> Organizational leaders can identify influential, respected individuals who are willing to publicly support data-informed decisionmaking and contribute time and ideas to develop system capabilities.



Source: <https://www.fldoe.org/academics/career-adult-edu/work-based-learning.stml>

## DELAWARE POSTSECONDARY CADRE

To provide guidance and technical assistance to the Delaware Department of Education, a Postsecondary CTE Cadre composed of leaders drawn from career technical school districts, Delaware Technical Community College, the Delaware Higher Education Office, and Delaware Department of Labor was formed. Members collaboratively develop public policy, data and reporting models, and mechanisms to sustain and grow career programs and learner support services. The group placed an emphasis on developing a shared credit for prior learning and experience framework, as well as prioritized equitable program access, persistence, outcomes, and data system development. Its work on data system development included improving governance and the creation of public facing data dashboards that promote CTE storytelling and the communication of system values.

## STRATEGY TWO

### Shifting from a compliance to an improvement mindset

Data is often used as a tool for compliance, with institutions sanctioned for failing to achieve state-established CTE performance levels. When used strategically, data can serve as a powerful motivator, encouraging people to strive to achieve. Some strategies to shift mindsets include:

#### Select the right metrics.

The Perkins V metrics support federal administrators in assessing whether states and institutions are making measurable improvement in student performance. While these metrics are informative, college faculty often have more

targeted data needs. Institutional leaders can engage college faculty to define priority research questions and desired outcomes, which can help to identify the types of information needed to improve CTE instruction<sup>2</sup> and at what level of disaggregation (e.g., programmatic, learner demographics) they would like it detailed.

**Leaders can promote data use by creating space for data-driven discussions. They can create this space by building time into meetings for staff to review and process information.**

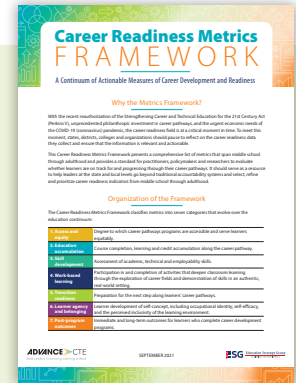


### ADVANCE CTE RESOURCE

#### Career Readiness Metrics Framework:

A Continuum of Actionable Measures of Career Development and Readiness presents

a comprehensive list of metrics that span middle school through adulthood and provides a standard for practitioners, policymakers and researchers to evaluate whether learners are on track for and progressing through their career pathways.



#### Shift from outcomes to process thinking.

One challenge in CTE is that it can take years for students to attain a measurable outcome. For this reason, states and institutions should consider options for integrating formative data into systems. Short-term results that lay groundwork for long-term wins are often more actionable and relevant to classroom instructors. For example, data on learner access to and persistence in CTE programs can offer insight into program operations. Improving results can contribute to expanding equity and increasing the size of the workforce.

## UDC-CC BEGINNING STUDENT SURVEY

To increase student retention, University of the **District of Columbia** Community College (UDC-CC) institutional leaders developed a beginning student survey, to be administered to all newly admitted students in August of their entering year. The survey asks students about their ability to finance their education, attend classes, and identify any obstacles to their success. College deans will use the results to target resources and supports on students with identified needs. This pre-academic year survey will help improve the odds of student success, since impediments can be identified and removed before a problem occurs. It is believed that early action will increase the odds that students are retained and complete their studies.

### Create time for data-driven discussions.

Leaders can promote data use by creating space for data-driven discussions. They can create this space by building time into agency or departmental meetings for staff to review and process information. Resources such as the Career Readiness Data Quality and Use Policy Benchmark Tool, developed by Advance CTE, can help to structure these conversations.

## OREGON HIGHER EDUCATION COORDINATING COMMISSION (HECC) DATA CONVERSATIONS

To build awareness of the benefits of data, the **Oregon** PDI lead brings a ‘data snippet’ to team meetings. Time is placed on the agenda to review the data and discuss what participants see. This centering of data helps to engage team members in considering not only what the outcome is, but to explore the factors that contribute to its existence. This emphasis on using data to guide improvement discussions helps staff to feel more comfortable with information and to see it as transcending a compliance purpose.



## STRATEGY THREE Investing in data literacy

Building a culture of data use requires making targeted investments in people and resources. Engaging state and institutional leaders and departmental representatives in assessing existing organizational uses of data and surfacing gaps in both information and user understanding is central to fostering a culture of data.<sup>3</sup>

### Provide tools to support staff in using data.

Numbers can be overwhelming when distributed without context. To support administrators in building data literacy, Advance CTE’s Career Readiness Data Quality and Use Policy Benchmark Tool offers a roadmap for building a data-informed plan of action. The online tool can help postsecondary leaders build a strategy for improving the quality and application of data.

Similarly, the Center for Education Policy Research at Harvard University offers excellent resources for using data. The Strategic Use of Data Rubric can help college faculty and staff to reflect on existing data practices and assess data quality in key domains.<sup>4</sup> The downloadable rubric focuses on three core areas: Program and Major Initiatives, Performance Management and Resource Allocation and Budgeting.

### STRATEGIC USE OF DATA RUBRIC

The Strategic Use of Data Rubric is a resource developed by the Strategic Data Project to provide direction and support to educational organizations in their efforts to transform data use. It is a tool that establishes a common language and a framework that enables a structured and systematic assessment of an organization's strengths and challenges around data use. Using the rubric as a basis for gathering evidence of data use across the organization allows educational leaders to identify specific areas for improvement and highlight specific steps to move the organization toward using data more strategically.

	BASIC	EMERGING	STRONG	EXEMPLARY
<b>Organizational Strategy</b> <small>To what extent does the organization use a strategic plan to organize programs and initiative priorities?</small>	<p>No strategic plan, or if strategic plan exists, fails to inform major initiatives.</p> <p>Major initiatives/programs frequently generated, crisis-driven and uncoordinated with strategy.</p> <p>Limited understanding of current initiatives. No complete list of initiatives in one place.</p> <p>No effort to avoid duplication across programs. No effort to eliminate or rationalize old initiatives.</p>	<p>Strategic plan informs some major initiatives.</p> <p>Major initiatives superficially aligned with strategy.</p> <p>Some understanding of current efforts.</p> <p>Some effort to avoid duplication across programs.</p>	<p>Strategic plan informs most major initiatives.</p> <p>Major initiatives significantly aligned with strategy.</p> <p>Significant understanding of current efforts.</p> <p>Efforts exist to coordinate programs and avoid duplication.</p>	<p>Strategic plan informs all major initiatives.</p> <p>Major initiatives tightly aligned with strategy; alignment understood well by agency.</p> <p>Deep understanding of current efforts. New projects not authorized without assessing current initiatives.</p> <p>Limited number of major initiatives. No duplication across programs.</p>
<b>Goal-Setting</b> <small>To what extent does the organization use data and analysis to set goals for programs and major initiatives?</small>	<p>Major initiatives are introduced without outcome or implementation goals.</p> <p>Targets and goals non-existent.</p> <p>No monitoring of progress.</p>	<p>Major initiatives are introduced with established goals, but goals not informed by analysis, nor aligned with strategic plan.</p> <p>Targets and goal exist but not created with evidence or analysis.</p> <p>Targets and goals are not well connected to implementation, operational outputs, or outcomes.</p> <p>Little monitoring of progress.</p>	<p>Major initiatives introduced with goals, targets, and timelines; all aligned with the strategic plan.</p> <p>Targets and goals exist, established from trend data and research.</p> <p>Targets and goals are largely connected to implementation, operations, outputs, and outcomes.</p> <p>Monitoring of progress largely focused on implementation, but not measurable outcomes.</p>	<p>Major initiatives introduced with goals, targets, timelines, responsibilities, and dependencies; all aligned with the strategic plan.</p> <p>Targets and goals exist, are both challenging and realistic and have been established from trend data, research, and predictive analytics.</p> <p>Targets and goals are always directly connected to implementation, operations, outputs, and outcomes.</p> <p>Monitoring of progress includes review of implementation, measurement of outcomes, and use of predictive analytics to anticipate progress and adjust tactics.</p>

### Standardize institutional metrics and data elements.

Institutional data systems can vary across education and workforce development agencies and across departments within institutions. Building a culture of data use begins with stakeholders speaking the same language. To foster collective understanding, institutions should standardize data elements and metrics across sites and agree upon common definitions.

#### OREGON HECC COLLEGE AND CAREER READINESS DEFINITION

Prior to its participation in the PDI, Oregon's definition of college and career readiness was last updated in 2014. The state's description is generalized to apply to both secondary and postsecondary learners and includes a list of outcomes for employment, career training, and postsecondary certificate or degree attainment. The definition also includes an expansive set of performance expectations, not all of which are quantifiable using existing departmental metrics. To update and standardize its state definition, HECC surveyed education and workforce agencies to identify preferred metrics and wording. Feedback informed rewording of the state's definition and revising key indicators to include a more discrete, and quantifiable set.

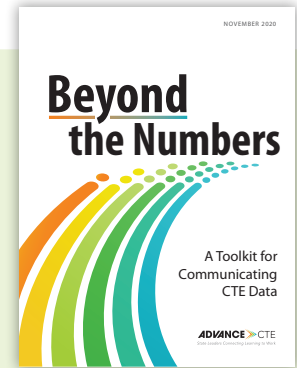
### Use a range of dissemination tools to communicate information.

People process data in different ways. State education agencies and postsecondary education institutions should seek to develop a range of formats and vehicles for circulating data based on stated needs. These formats and vehicles can include static tables, web-based dashboards, or infographics combining numbers and visual cues.

#### ADVANCE CTE RESOURCES

##### **Beyond the Numbers: A Toolkit for Communicating CTE Data**

contains guidance, best practices and tools that CTE leaders can use to create communications that help stakeholders better understand and act on CTE data.



##### **Beyond the Numbers: Design Principles for CTE Data Reporting**

provides nine principles for developing effective and accessible CTE data reporting tools.

#### ALABAMA DATA WORKSHOPS

To support CTE deans in learning about data disaggregation, **Alabama** used its PDI resources to improve capacity around data disaggregation and analysis. Administrators across the Alabama Community College System (ACCS) participated in Advance CTE's Opportunity Gap Analysis Workshop. This training will be replicated by a Dean of Instruction at the annual Alabama Community College Association conference in November 2022. Additionally, ACCS's CTE team, alongside the System's Director of Organizational Effectiveness and Research, conducted a second training to demonstrate the use of Excel and how it can enhance how we look at data.

### Invest in staff professional development.

Building an understanding of data and data use requires providing state education agency and institutional administrators and faculty with training to expand awareness.<sup>5</sup> Offering ongoing training and support can better guide the use of disseminated reports and tools than one-and-done sessions.

## UDC-CC DATA TRAINING MODULES

To build staff capacity in data use, UDC-CC commissioned a professional development training workshop series to assist college deans, administrators, and faculty in interpreting data to improve programming. The series places an emphasis on understanding how students are performing on the Perkins V indicators – institution-wide, for student groups, and individual college CTE programs. Modules are designed for asynchronous viewing to promote continuous learning.

### UDC-CC Performance on the Perkins V Indicators

2020-21 Academic Year	1P1	2P1	3P1
<b>Institutional Target</b>	<b>22.0%</b>	<b>23.0%</b>	<b>23.0%</b>
Institutional Performance	44.5%	21.6%	26.3%
90% Threshold	19.8%	20.7%	20.7%
<b>GENDER</b>			
Male	35.6%	21.6%	5.4%
Female	48.5%	21.4%	47.9%
<b>RACE/ETHNICITY</b>			
American Indian or Alaskan Native	–	33.3%	>95%
Asian	6.0%	23.1%	<5%
Black or African American	43.0%	20.5%	31.4%
Hispanic or Latino	47.4%	19.7%	13.1%
White	50.0%	30.3%	36.8%
Two or More Races	–	<5%	>95%
Unknown	43.8%	25.5%	16.7%
<b>SPECIAL POPULATION</b>			
Economically Disadvantaged	46.1%	25.0%	26.4%
Nontraditional	56.5%	<5%	>95%
Single Parent	<5%	<5%	<5%
English Learner	50.0%	33.3%	30.8%

Source: UDC-CC, Office of Planning and Institutional Effectiveness, 2022.

### Design for accessibility.

Dissemination tools should be designed with the end-user in mind, including using palettes that can be read by the color blind. Web-based products should be compatible with screen readers and other accessibility tools (see Web Content Accessibility Guidelines standards). To ensure that the tools are truly accessible, it is important to expressly solicit and be responsive to user feedback.

### Conclusion

Strengthening how data is used requires changing organizational culture. To elevate the quality of programs, ensure consistency of services and improve equity and access, state education agency administrators and postsecondary faculty and staff must become experts at making the data and information provided to them actionable. Creating a data-informed decision making culture focused on continuous improvement requires working with staff and faculty to access and use data to improve instruction.

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## About

Advance CTE's Advancing Postsecondary CTE Data Quality Initiative (PDI) is exploring how state leaders can cultivate high-quality postsecondary data ecosystems that can assist postsecondary institutions in offering career pathways that meet learner interests and are aligned to a good career.

Through the PDI, Advance CTE is working with the Alabama Community College System, Delaware Department of Education, University of the District of Columbia Community College, Florida Department of Education, and Oregon Higher Education Coordinating Commission to develop and implement comprehensive action plans to improve the quality and use of postsecondary CTE data. Focus areas for grantees include improving data collection, developing local capacity to use data effectively, improving reporting and communication, identifying opportunity gaps and improving data linkages.

## Endnotes

- <sup>1</sup> Waller, D. (2020). 10 steps to creating a data-driven culture. Harvard Business Review. <https://hbr.org/2020/02/10-steps-to-creating-a-data-driven-culture>.
- <sup>2</sup> Dalporto, H. (2019, October). Building effective data strategies in career and technical education. [https://www.mdrc.org/sites/default/files/CTE\\_Metrics\\_Brief\\_2019.pdf](https://www.mdrc.org/sites/default/files/CTE_Metrics_Brief_2019.pdf).
- <sup>3</sup> Zastrow, Z. P., & Perez, Z. (2019, April). Using state data systems to create an information culture in education. Education Commission of the States. <https://www.ecs.org/wp-content/uploads/Using-State-Data-Systems-to-Create-an-Information-Culture-in-Education.pdf>.
- <sup>4</sup> Center for Education Policy Research. (n.d.) Toolkit for effective data use. Harvard University. <https://sdp.cepr.harvard.edu/toolkit-effective-data-use>.
- <sup>5</sup> Maldonado, M., Mugglestone, K., & Roberson, A. J. (2021). Developing a data-informed campus culture: Opportunities and guidance for institutional data use. Institute for Higher Education Policy. [https://ihep.org/wp-content/uploads/2021/03/IHEP\\_Developing-a-data-informed-campus-culture.pdf](https://ihep.org/wp-content/uploads/2021/03/IHEP_Developing-a-data-informed-campus-culture.pdf).