Advancing Postsecondary CTE Data Quality Initiative

BRIEF 2

Centering the Learner Experience

Strengthening institutional Career Technical Education (CTE) programming requires engaging with learners to understand the obstacles they face and supports they need to achieve success. When the data is thoughtfully compiled and communicated, department chairs and faculty can interpret results, infer meaning, and take deliberate actions to improve instructional practice.

Postsecondary education enterprise management information systems (EMIS) incorporate a multitude of data elements that administrators use to assess institutional effectiveness, administer programming and finances and manage compliance reporting. Indicators of learner engagement and outcomes (e.g., enrollment, persistence, completion) in CTE programming are typically incorporated into these systems and, in some instances, may be shared with department chairs and faculty to inform instructional improvement efforts.

While these home-grown or commercial systems can generate an abundance of data, the detailed program- and learner-level data that faculty need to improve programming often is not collected or disseminated in meaningful ways.

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 and 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.

Figure 1: Theory of change

If we engage learners – both youth and adult – we will gain a better understanding of their needs and obstacles to success ...

↓

which can improve our data collection and metrics ...

↓

which when shared with practitioners in meaningful ways ...

↓

can be used to improve instructional practice and address learner needs.

This brief, the second in the series, advances a theory of change that centers the learner experience in strategies to improve institutional data collection and use and strengthen college information management systems (see Figure 1). These strategies, drawing on lessons learned from the **District of Columbia's** and **Oregon's** participation in the PDI initiative, entail:

- Engaging learners as critical sources of data;
- Creating meaningful data communication tools; and
- Training institutional staff to interpret and use data.

These strategies build on the second principle of Advance CTE's Without Limits: A Shared Vision for the Future of Career Technical Education, which calls for designing CTE programs with learners, not simply for learners.[1]

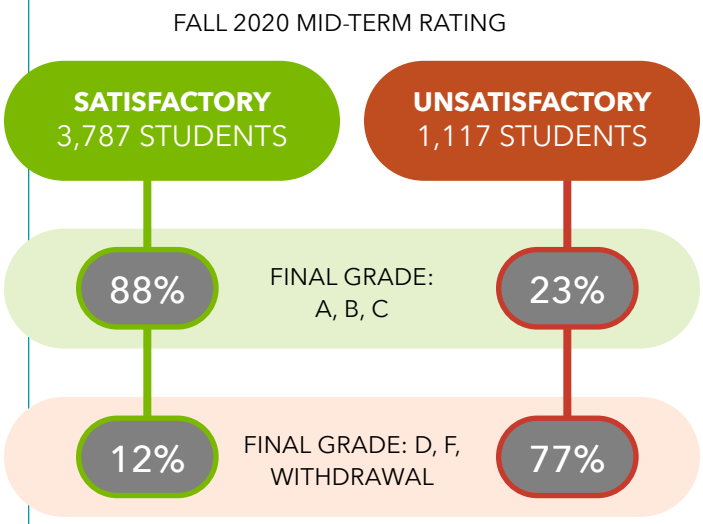
Recognizing the value of engaging the learner voice, UDC-CC administrators have committed to conducting mid-term lerner surveys and communicating results to faculty on an ongoing basis.

STRATEGY ONE

Engage learners as critical sources of data

Each semester, faculty at the University of the District of Columbia Community College (UDC-CC) grade learners on their mid-term course performance. An "Unsatisfactory" rating means that a learner is unlikely to pass. This statistic is telling: In fall 2020, 77 percent of the learners rated "Unsatisfactory" went on to

Figure 2: UDC-CC Mid-term and final course grade ratings



Source: Education Northwest, *"Why Students Fail: Understanding Unsatisfactory Performance", Presentation, January 2022*

withdraw or earn a final course grade of D or F. In comparison, just 12 percent of those who were rated "Satisfactory" posted a similar result (Figure 2).

With support from the PDI, in fall 2021 college administrators conducted an online survey of learners awarded an "Unsatisfactory" rating to gain insight into why they were struggling with their coursework and what unmet needs posed obstacles to their success. Participants were asked about their course experiences, educational resources and life circumstances. Results were recorded in the college's Qualtrics survey system, where they can be accessed by college administrators to inform improvement efforts.

Analysis surfaced new information on learner needs and obstacles. For example, while most learners found their studies interesting, the cost of class materials and access to the internet challenged some learners. Others reported time as a significant constraint; in some instances, learners' work schedules interfered with their class time, instructors' office hours or ability to do homework.

Resulting Innovations

Learner feedback offered faculty insights into how they might actively engage with learners to support their success. This effort included scheduling one-on-one time with learners observed to be struggling; flexing office hours to accommodate work schedules; and arranging private meetings to surface technology, financial and work challenges.

Recognizing the value of engaging the learner voice, college administrators have committed to conducting mid-term surveys and communicating results on an ongoing basis. They are also considering expanding the survey to all learners and having faculty award extra credit to incentivize learner responses. Finally, they plan to promote targeted professional development to support faculty in heading off problems before they arise.

STRATEGY TWO
Create meaningful data communication tools

Given the high stakes associated with the federal performance indicators contained within the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV), the Oregon Higher Education Coordinating Commission (HECC) created an innovative data display to share institutional performance with the field (Figure 3).

The state documents institutional performance on the Perkins IV indicators using a stoplight display:

- Institution has met or exceeded the state performance target;
- Institution has not achieved the state performance target but is within 90 percent of the level; and
- Institution has not achieved the state performance target and is below 90 percent of the level.

This heads-up data display enables colleges to see how they are performing relative to other colleges,

Figure 3: Sample data report 2019–20 Oregon postsecondary Perkins performance measures

Grant Recipient	1P1 Technical Skill Assessment	1P2 Academic Skill Attainment	2P1 Credential, Cert., Degree Completion	3P1 Student Retention or Transfer	4P1 Student Placement	5P1 Non-trad Participation	5P2 Non-trad Completion
Performance Target	**96.00%**	**92.75%**	**56.00%**	**74.00%**	**77.00%**	**15.50%**	**52.00%**
Statewide Performance	90.86%	90.30%	58.88%	88.65%	68.39%	14.56%	58.92%
90% Levels	86.85%	83.48%	50.40%	67.05%	69.30%	13.95%	46.80%
✓ Met or exceeded performance target ! Met 90% level, but did not meet performance target ✗ Below 90% level							
Blue Mountain	–	>95%	>95%	90.3%	71.8%	<5%	>95%
Central Oregon	81.8%	88.6%	50.3%	88.1%	71.1%	16.2%	40.3%
Chemeketa	>95%	89.5%	52.8%	92.0%	71.4%	14.7%	59.3%
Clackamas	71.4%	93.1%	39.1%	88.8%	77.4%	11.6%	53.4%
Clatsop	>95%	85.5%	46.1%	87.7%	62.5%	13.4%	35.3%
Columbia Gorge	>95%	>95%	>95%	86.7%	68.4%	6.3%	>95%
Klamath	>95%	92.9%	56.8%	87.6%	65.7%	26.1%	52.8%
Lane	>95%	91.1%	61.3%	90.0%	76.3%	14.9%	57.1%
Linn-Benton	>95%	90.2%	70.1%	87.9%	84.1%	19.1%	>95%
Mt. Hood	>95%	89.3%	75.4%	87.3%	68.1%	8.3%	75.1%
Oregon Coast	–	>95%	>95%	>95%	89.7%	–	>95%
Portland	87.1%	78.0%	52.3%	89.2%	70.8%	21.0%	53.3%
Rogue	92.8%	94.8%	73.1%	87.5%	77.5%	14.6%	69.9%
Southwestern	93.2%	90.9%	84.2%	90.1%	62.1%	25.0%	75.5%
Tillamook Bay	–	>95%	68.8%	>95%	82.4%	17.0%	60.0%
Treasure Valley	>95%	84.8%	54.1%	91.4%	22.3%	21.7%	54.1%
Umpqua	81.0%	>95%	>95%	83.0%	38.2%	10.7%	>95%

Source: https://www.oregon.gov/ode/learning-options/CTE/data/Documents/Oregon%202019-20%20%20Post%20Sec%20Traffic%20Light_suppressed_3-4-21.pdf

which can be helpful in identifying potential sites to contact to understand why they may be having relative success. Data suppression rules are used to protect learner privacy.

Colleges also receive customized data tables disaggregated at the program level and by learner demographics. They are able to use their customized reports to assess where and which groups of learners are encountering difficulty. They can then customize and implement strategies at the institutional level to address learner performances that are disproportionately lower than others.

Resulting Innovations

Reauthorization of the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) has led Oregon to reassess its stoplight report elements and format. The shift to fewer federally required indicators means that the report would offer relatively little information. Moreover, the lag in learner outcomes for postsecondary placement and credential attainment would delay results by more than a year, undermining the report's utility (e.g., June 2020 outcomes would not be reported until December 2021).

To strengthen reporting, Oregon is leveraging its engagement in the PDI to update data collection elements included in the state's EMIS and develop data communication tools to better inform institutional improvement efforts. To do so, HECC is consulting with community college administrators to update indicators to address faculty needs. Focus group meetings with college CTE leaders surfaced the desire for new data elements offering insight

into learner participation and persistence. Focus group participants also offered suggestions on when and how to disseminate data and the desired level of disaggregation.

In addition, the state is exploring the potential for shifting from static reports distributed in PDF formats to more interactive displays. More interactivity would enable users to view trend data for all or selected colleges; explore program-level reports; and disaggregate results at the learner level based on gender, race/ethnicity and special population status.

STRATEGY THREE

Train institutional staff to interpret and use data

Placing data into faculty hands is a necessary, but not sufficient, activity for improving student learning. College faculty can benefit from an interactive professional development experience that offers them a structured process for turning data into actionable strategies.

UDC-CC organizes its trainings around indings from the learner mid-term survey. In Oregon, CTE data is consulted to address disproportionalities in learner participation, persistence and outcomes on the federal accountability indicators by gender, race/ethnicity and special population status.

In both cases, trainings help build participant capacity to engage in a cycle of data inquiry. The trainings are part of a three-workshop series in which participants collaborate to investigate data drawn from the college EMIS to identify performance gaps, brainstorm root causes underlying observed gaps, research evidence-based interventions to close these gaps, and develop a structured strategic plan with benchmarks to implement solutions and track their progress (see Figure 4).

Figure 4: Overview of professional development approach

This was developed for Oregon and the District of Columbia through the Advancing Postsecondary CTE Data Quality Initiative

MODULE ONE

Gap Analysis: Understanding Participation, Persistence and Attainment

Analysis of site data to find variations in learner participation and outcomes, disaggregated by program and learner characteristics.

MODULE TWO

Root Cause Analysis: Identifying Underlying Factors Affecting Participation and Outcomes

Systematic inquiry to surface factors underlying student participation, persistence and attainment and determine culturally sensitive, evidence-based ways to address them.

MODULE THREE

Operational Planning: Taking Strategic Actions to Guide Improvement Activities

Creation of a one-page strategic plan to implement and sustain improvement strategies and create measurable benchmarks to monitor progress.

Resulting Innovations

Effective professional development offers feedback and reflection of a sustained duration.[2] The adoption of professional development training modules reflects state and community college administrators commitment to creating a culture of data-informed improvement. This culture includes encouraging and supporting experimentation with best practices. To institutionalize this effort, modules tailored for use in UDC-CC and Oregon are being developed for asynchronous use.

This investment will also support college staff as they update their Comprehensive Local Needs Assessment (CLNA) plans, mandated in Perkins V to occur on a two-year cycle. The focus on reviewing quantitative data – with an emphasis on documenting CTE program quality, access and equity – can help in the formulation of policies and practices to strengthen instruction.

See Advance CTE's and ACTE's Lessons in Collaboration and Innovation: The Impact and Promise of the Comprehensive Local Needs Assessment for additional information on other states' approaches to delivering professional development on data analysis and visualization.[3]

Putting it all together: Creating a learner-centered data ecosystem

A career readiness data ecosystem is "the broad universe of policies, technology, people and processes that facilitate the collection, analysis, reporting and use of data to support learners along their career pathways."[4]

Centering the learner experience is a key component in designing postsecondary statewide EMIS or collecting institutional data for use in improving CTE programming. Learners are best positioned to know their experiences, needs and priorities and the barriers that they face. Yet the learner voice is seldom sought – CLNAs being a case in point.[5,6] Ideally, learners' input is collected on an ongoing basis and integrated into program design and delivery in a timely manner.[7]

Ensuring access to meaningful data is a second step. It involves outputting useful data elements from EMIS at the relevant level (e.g., institution, program, learner), disaggregated to identify inequities. Using tools that communicate complex data simply and effectively to tailor the dissemination of data in formats that are appropriate for different end users is equally important.

Data is useful only when it is used. Postsecondary department chairs and their faculty vary in their levels of expertise, interest, comfort and trust in data. Effective professional development is one step toward addressing all four of these elements. It entails dedicating time for examining the data to identify disproportionalities, investigating the root causes of equity gaps and proven strategies to close them, and designing and implementing strategic plans to guide and monitor progress. Professional development offerings are one avenue to set clear expectations for data use.

Accessing and using data with clear expectations and effective support is essential to building institutional capacity to improve practice and address learner needs. It requires a commitment from leadership at all levels to invest time and resources into strengthening institutional or statewide EMIS, sourcing data that is reflective of the learner experience, adapting the organizational structures used to communicate information, and shifting mindsets toward a culture that understands and values the power of data in service of learners' needs.

Acknowledgments

This resource was developed through the Advancing Postsecondary CTE Data Quality Initiative (PDI), with support from ECMC Foundation. Advance CTE recognizes and thanks the following individuals for their contributions to this publication: Angela Carey, research analyst, University of the District of Columbia Community College; Marilyn Hamilton, dean, academic affairs, University of the District of Columbia Community College; Steve Klein, director, Education Northwest; Kate Kreamer, deputy executive director, Advance CTE; Peter Plourde, associate professor of mathematics and member of the Office of Academic Affairs/Faculty Development, University of the District of Columbia Community College; Candace Williams, senior research associate, Advance CTE; and Kelly Zinck, Education Team research analyst, Oregon Higher Education Coordinating Commission.

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.

Notes

[1] Advance CTE. (2021). *Without limits: A shared vision for the future of Career Technical Education.* https://cte.careertech.org/sites/default/files/CTEWithoutLimits_Vision_2021.pdf

[2] Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development.* https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf

[3] Advance CTE. (2022). *Lessons in collaboration and innovation: The impact and promise of the Comprehensive Local Needs Assessment.* https://cte.careertech.org/sites/default/files/files/resources/CLNAImpactandPromise_AdvanceCTE_Jan2022.pdf

[4] Advance CTE. (2021). *Career readiness data quality and use policy benchmark tool.* https://dataquality.careertech.org/

[5] Advance CTE. (2022). *Lessons in collaboration and innovation: The impact and promise of the Comprehensive Local Needs Assessment.* https://cte.careertech.org/sites/default/files/files/resources/CLNAImpactandPromise_AdvanceCTE_Jan2022.pdf

[6] Advance CTE. (2021). *With learners, not for learners: A toolkit for elevating learner voice in CTE.* https://cte.careertech.org/sites/default/files/files/resources/LearnerVoice_in_CTE_Toolkit_082021.pdf

[7] Advance CTE. (2021). *Without limits: A shared vision for the future of Career Technical Education.* https://cte.careertech.org/sites/default/files/CTEWithoutLimits_Vision_2021.pdf