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State Leaders Connecting Learning to Work

Internal CTE Data Dashboards for Statewide, Data-Informed Decisionmaking

DELAWARE & SOUTH CAROLINA SNAPSHOTS

Accurate, consistent, and timely postsecondary Career Technical Education (CTE) data are essential to improve learner access to programs, enhance outcomes, and ensure that CTE systems are responsive to the needs of both learners and employers. Yet, achieving high-quality data is complex. The wide array of institutions, content, and career pathways available can create challenges for states as they work to access, collect, and share postsecondary data. Doing so requires intentional, iterative connections across learners and families, educators, institutional researchers, state agencies, and employers.

To address these challenges and leverage opportunities, Advance CTE launched the Advancing Postsecondary CTE Data Quality Initiative (PDI) to help states build and enhance postsecondary CTE data structures. These efforts have improved access to the data needed to make informed decisions regarding learner access to and success within high-quality CTE programs of study.

This brief, part of a series on the initiative's second phase, Strengthening the Culture of CTE Data Use in Postsecondary Education (PDI 2.0), highlights work in Delaware by the Delaware Department of Education (DDOE) and in South Carolina by the South Carolina Technical College System (SCTCS) to improve postsecondary CTE data communications and use. In doing so, both states provide compelling examples of how internal-facing postsecondary CTE data dashboards support data-informed decisionmaking.

About the Initiative

Advance CTE, with support from ECMC Foundation, launched the Advancing Postsecondary CTE Data Quality Initiative (PDI) to examine critical problems of practice, develop resources, and implement innovative solutions to improve the quality and use of postsecondary CTE by providing funding and technical assistance to participating states.

The second phase (PDI 2.0), launched in 2023, provided support to four states: Delaware, Iowa, New Mexico, and South Carolina. PDI 2.0 formalized PDI 1.0's priorities into three focus areas. Participating states chose one of the following: clarify or create new postsecondary CTE data elements, linkages, and/or business rules; develop learner-centered data through collaborator engagement processes; or improve postsecondary CTE data communications and use.

The Path to Success

Internal-facing CTE data dashboards empower state and local education agencies to make timely, informed decisions by offering clear, disaggregated insights into learner outcomes, program performance, and enrollment trends. By pairing these tools with targeted training and system improvements and embedding them within institutional routines, DDOE and SCTCS are showing how dashboards can serve as sustainable catalysts for strategic planning and continuous improvement.

DDOE's and SCTCS's work through PDI 2.0 focused on improving postsecondary CTE data communications and use. Delaware, building on its prior PDI work, developed an internal data dashboard displaying disaggregated learner outcomes, enabling postsecondary institutions to drive continuous improvement. SCTCS similarly created a systemwide, internal-facing CTE dashboard to provide real-time, actionable data to all 16 technical colleges in the state and to equip administrators with tools to proactively address learner needs.

Delaware's Approach

Data-Driven Culture Informed by Analysis

DDOE was the only participant in PDI 2.0 that also participated in the original PDI initiative. In the first phase of PDI, Delaware addressed the structural gaps that historically hindered the usefulness of postsecondary CTE data, such as inconsistencies in classification codes, siloed systems, and variable data quality across institutions. These efforts helped to establish a more coherent framework for collecting and analyzing postsecondary CTE information, a framework that became the launching pad for more ambitious, user-focused work through PDI 2.0.

Through PDI 2.0, Delaware focused on building a more robust and sustainable data infrastructure to support continuous improvement in postsecondary CTE. By focusing on targeted system development, process refinement, and collaborative planning, the state enhanced its capacity to collect, analyze, and report on postsecondary outcomes in a manner that supports effective decisionmaking at both the institutional and state levels.

Outcomes and Outputs

Outcome: Developed a data visualization tool showing disaggregated outcomes that is available to postsecondary institutions.

One of DDOE's central achievements during PDI 2.0 was the creation and implementation of the Postsecondary CTE Portal. This platform offers institutions access to clear, disaggregated data on learner outcomes, providing a consistent basis for program review and improvement planning. The portal is modeled after Delaware's established K-12 system and was developed with the goal of increasing transparency, enabling consistent data entry, and supporting a streamlined reporting process.

The portal's data visualization features and interface were purposefully kept simple and direct, allowing institutional users to access core data points without the need for extensive interpretation. Institutions can now access longitudinal data in a centralized location, which enhances their ability to assess program performance and implement data-informed strategies. This design supports faster identification of trends and areas for action, enabling institutions to use the platform as a regular component of their program review and improvement cycle.

Outcome: Used data to identify opportunities for system improvement and potential solutions.

In addition to the portal, Delaware introduced several systemic enhancements designed to improve data quality and reporting. These enhancements included technical updates to Delaware's Literacy, Adult, and Community Education System (LACES) system to increase accuracy and consistency, realignment of Classification of Instructional Programs (CIP) codes across institutions to enable more uniform reporting, and automation of key components of the data collection process. These changes collectively support more reliable tracking of learner progress through postsecondary CTE programs, including enrollment, persistence, credential attainment, and employment outcomes.

Delaware also prioritized institutional engagement throughout the initiative. Collaborators were trained to navigate the new systems, with targeted sessions designed to build familiarity with revised processes and promote the use of data in local planning. The Delaware Pathways Convening, held in partnership with the Delaware Chamber of Commerce and Delaware Technical Community College, further reinforced the value of shared data systems by promoting cross-sector collaboration around common goals. As a result, participating colleges demonstrated improved accuracy and completeness in their data submissions. These improvements led to more meaningful analysis and visualizations, which in turn supported better informed program decisions.

Specific improvements made during the initiative include the refinement of institutional data submission protocols, the integration of updated Comprehensive Local Needs Assessment (CLNA) tools into the state's eGrants system, and the development of standardized internal

reporting frameworks. These updates allow for easier comparisons across institutions and programs, increase the efficiency of annual reporting, and ensure greater alignment with state policy priorities and workforce needs.

The CLNA process played a key role in guiding institutional planning. In partnership with national collaborators, Delaware structured the CLNA to emphasize the use of data to identify program improvement opportunities. The updated CLNA tool, developed with direct input from postsecondary partners, enabled a more iterative and responsive process that allowed for midcycle adjustments based on emerging data trends.

Outcome: Published a public summary report of disaggregated outcomes based on the data visualization tool.

The final phase of the initiative focused on the development of a public summary report that presents disaggregated postsecondary outcomes in a clear and accessible format. The report, the first in a planned series of annual reports, was informed by models from other states and aligned with Delaware's strategic plan metrics and prior Carl D. Perkins Career and Technical Education Act (Perkins V) reporting practices. The report is published through both the DDOE website and Delaware Pathways to support transparency and public understanding of postsecondary CTE results.[1]
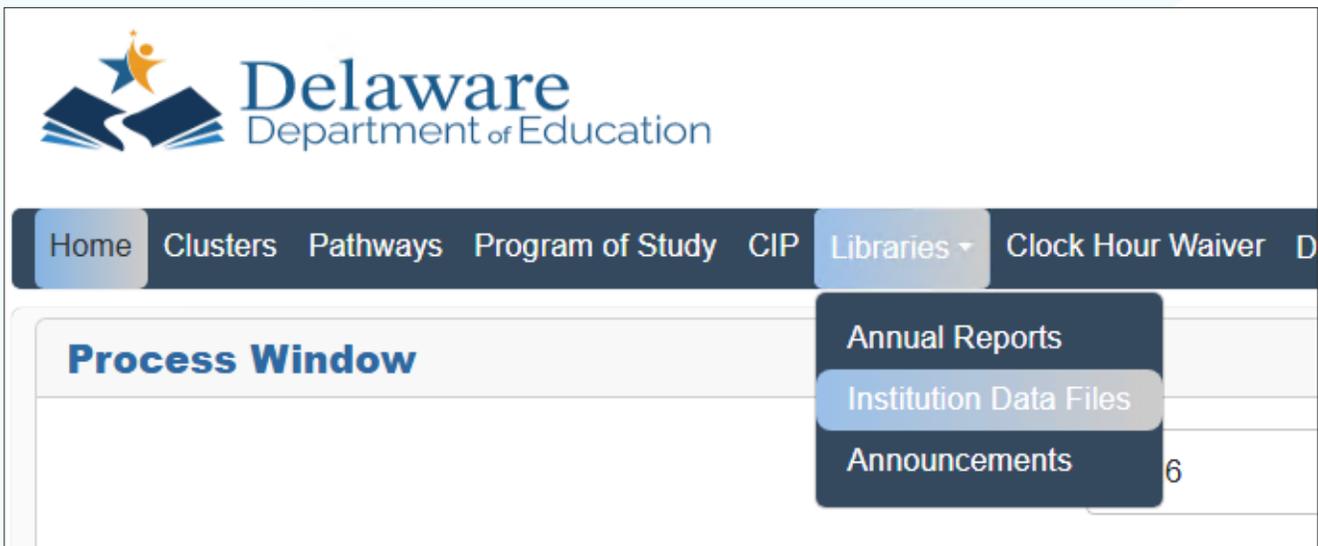
Delaware Department of Education Postsecondary CTE Portal

South Carolina's Approach

Bold, Innovative, and Sustainable Practices That Promote Learner Success

Like DDOE, SCTCS focused its efforts on building the internal systems and structures necessary to ensure that high-quality data can inform policy, practice, and resource allocation across the state's CTE ecosystem. While DDOE and SCTCS tailored PDI 2.0 work to local contexts and needs, both demonstrated the importance of equipping education leaders with the tools to access, interpret, and apply data in meaningful ways. SCTCS used PDI 2.0 to make measurable progress in modernizing its approach to postsecondary CTE data management and analysis.

Outcomes and Outputs

Outcome: Developed a statewide, internal postsecondary CTE data dashboard that is accessible to postsecondary institution leaders, faculty,

The core objective of this work was the development of a centralized, internal-facing data dashboard designed to support systemwide decisionmaking through real-time access to disaggregated enrollment and programmatic data. This strategic adjustment away from the state's prior focus on external-facing dashboards to internal-facing dashboards resulted in the successful delivery of a fully functional platform that will serve as a critical resource for institutional effectiveness, planning, and program review.

The dashboard was developed using Power BI through a contracted vendor and includes data from all 16 technical colleges in the state. System staff across key divisions—Information Technology, Academics, Student Affairs, and Research—participated in the design, testing, and review process. Development was also informed by the SCTCS's Institutional Effectiveness Peer Group, which provided technical and operational insight. These collaborations not only allowed SCTCS to complete a usable dashboard within the project timeline but also positioned SCTCS to expand access and functionality in future phases.

The dashboard itself represents a foundational advancement in CTE data capability within South Carolina. It allows internal users to view and analyze postsecondary CTE enrollment

and program data across a variety of dimensions. For example, users can disaggregate enrollment by college, program, Career Cluster®, race, ethnicity, and gender. A typical use case might involve filtering to examine male enrollment in programs that are identified as non-traditional under Perkins V for male learners such as nursing or education, allowing for immediate insight into participation trends. Data visualizations generated from the platform can be used to support reporting for agency colleagues, college leadership, and industry partners. These visual outputs are designed for direct use in Perkins V planning, local applications, and CLNAs.

The dashboard's design was intentionally streamlined to support efficient analysis and facilitate quick decisionmaking. Rather than burdening users with extensive navigation or filtering tools, the platform prioritizes clarity and ease of use. College staff can extract relevant insights without requiring specialized data expertise, which makes the tool broadly applicable across various institutional roles. It also supports regular analysis by peer groups within SCTCS, such as Nursing, Allied Health, Admissions, and Career Services, by offering consistent and validated data that can inform program coordination

Outcome: Developed a phased dashboard implementation plan that incorporates a timeline for recommended training, feedback loops, and ongoing development.

Recognizing that the long-term value of the dashboard depends on widespread and informed use, SCTCS has initiated a data champion training program. This initiative will prepare 40 faculty and staff from across the system to use and interpret dashboard data accurately. These individuals were selected through an application process based on their interest in using data for program planning and improvement. Training, delivered in partnership with the Association for Institutional Research, will cover research design, descriptive statistics, survey development, and reporting practices. Once trained, these data champions will have access to the dashboard and provide structured feedback for further refinement.

This implementation strategy ensures that the dashboard will evolve alongside user needs. As features are added, SCTCS will continue to prioritize practical use cases, with an emphasis on planning, compliance, and continuous improvement. By investing in both the technology and the people who use it, SCTCS has created the foundation for a sustainable data culture that strengthens postsecondary CTE programs statewide.

PDI 2.0 successfully supported the development of a secure, internal-facing platform and an implementation plan that directly benefits institutional operations. As the next stages of dashboard revision and training are undertaken, SCTCS is positioned to further extend access and embed data analysis into routine decisionmaking processes, a replicable model for other systems seeking to modernize data infrastructure while balancing operational constraints and institutional readiness.

Sustaining Progress Beyond PDI 2.0

As DDOE and SCTCS conclude their work under PDI 2.0, both states are strategically positioned to sustain and build upon the momentum they have generated. Each state has laid the groundwork for long-term data use and system improvement through a combination of infrastructure development, training, and cross-sector engagement.

In Delaware, the systems and processes initiated through PDI 2.0 are being embedded into regular operations to ensure continuity and usefulness beyond the life of the initiative. The refinement of the postsecondary data submission process and the creation of the postsecondary portal, modeled after existing K-12 systems, will make data reporting more efficient and provide a centralized location for accessing materials, applying for funding, and reviewing policies. Enhancements to LACES, including better alignment of CIP codes, will strengthen the accuracy and comparability of the data. These tools will support planning and program improvement.

SCTCS is similarly extending the impact of its work. The dashboards developed during PDI 2.0 now serve as proof of concept and have already prompted additional investment from system leadership. Development is continuing, with an emphasis on expanding functionality and refining access. Equally important, the state is preparing faculty and staff through targeted training to ensure that they can use these tools effectively. Data champions will provide input for improvements and promote a culture of meaningful data use across the technical college system.

The work completed by DDOE and SCTCS under PDI 2.0 provides valuable insights for states seeking to improve postsecondary CTE outcomes through more effective use of postsecondary CTE data dashboards. Together, the work of these two states underscores the importance of beginning with practical, locally informed strategies and building toward broader system change.

Endnotes

[1] Delaware Department of Education & Delaware Pathways. (n.d.). Delaware career and technical education (CTE) annual report: 2022-2023 school year. https://delawarepathways.org/annual-report/

Acknowledgments

About Advance CTE

Advance CTE is the national association of State CTE Directors and related professionals, equipping those leaders with knowledge and inspiration to move education forward. Across the country, our members are creating a way for each learner by expanding access to and success in a connected and supportive career preparation ecosystem. First established in 1920, Advance CTE is the longest-standing national nonprofit that represents State CTE Directors and state leaders responsible for secondary, postsecondary, and adult CTE across all 50 states, the District of Columbia, and U.S. territories.