

**Using Enrollment Trends and Performance Outcomes to Improve CTE Programs for Students**

**Massachusetts Department of Elementary and Secondary Education**

75 Pleasant Street, Malden, MA 02148-4906

Phone 781-338-3000 TTY: N.E.T. Relay 800-439-2370

[www.doe.mass.edu](http://www.doe.mass.edu)

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**Executive Summary**

**Across Massachusetts, committed educators are dedicated to bringing outstanding career and technical education to students.** These experiences are based on rigorous standards aligned to the needs of business and industry and prepare students for careers in programs from Agricultural Mechanics to Stationary Engineering. These experiences take many forms: students explore programs; demonstrate technical knowledge and skills; accept direction and constructive feedback; earn industry-recognized credentials and articulated credits; develop four-year plans; participate in cooperative education; and many more. And throughout, students have opportunities to step back, reflect on their work, identify successes and opportunities to improve, and grow.

Similarly, educators also periodically examine results, identify successes and challenges, and consider what to do differently. Laws and regulations require districts and the state to assess the effectiveness of CTE through the collection of student-level performance data. Further, we are required to disaggregate it for populations of students and by CTE program; identify and quantify disparities or gaps in performance between groups of students; and use these to continually make progress toward improving student performance. (See Perkins Act, Section 113, for more.) This approach, which embodies critical thinking and lifelong learning, may lead to valuable changes at the individual, small group, and whole school or district-wide levels.

Districts collect a vast array of student data on a regular basis, and at times it can be difficult to cut through the volume of data, understand it, and draw conclusions about it. The place to start is with the **Perkins Core Indicators**, outcomes from the accountability system for federally funded Perkins programs (which include Chapter 74-approved programs). Educators can review Perkins Core Indicators alongside local information to draw conclusions and help strengthen programs for students. Using these in a reflective **cycle of inquiry** includes reviewing results, analyzing trends and patterns, exploring underlying causes, implementing programmatic changes, and monitoring results. For academic success, this cycle of inquiry has led some to dive deep into MCAS results, strengthen writing programs, modify exploratory options, change application processes, and consider other innovative approaches.

This document describes resources that DESE makes available to districts for examining the Perkins Core Indicators and related measures and offers strategies and tools to understand outcomes and improve services for students in your district. The examples reflect ones we have learned in conversation with school and district leaders, CTE directors, CTE teachers, academic teachers, data specialists, school counselors and others. As you embark on this journey, please share your feedback and examples. We hope to enhance this document over time – for that is how we grow, learn, and improve.

**Thank you for your commitment to your students as they acquire the knowledge, skills, and experiences that will enable them to lead productive and fulfilling lives through career and technical education.**

**Acknowledgements**

We would like to acknowledge the contributions made by CTE educators and leaders in schools and districts across Massachusetts and at DESE and thank them for sharing their insights. Conversations with many educators influenced the development of this resource, and we welcome additional feedback.

The development of this resource was influenced by the Early Warning Implementation Guide, which can be found on the website of the Massachusetts Early Warning Indicator System (EWIS).

This document is version 5.0.

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| --- | --- | --- |
| Version:  | Changes: | Date: |
| 1.0 | Initial document | 7/1/2019 |
| 1.2 | Minor edits  | 9/13/2019 |
| 2.0 | Changes for SY2021 | 6/30/2020 |
| 3.0 | Changes for SY2022 | 7/30/2021 |
| 4.0 | Changes for SY2023 | 8/12/2022 |
| 5.0 | Added SchoolFinder and Statewide map, Profiles Pathways and Programs reports. Added changes for SY2024 including changes to SIMS Reports. Removed references to Perkins IV. | 6/1/2023 |

This document is available at DESE’s [CTE Reporting/Data](https://www.doe.mass.edu/ccte/cvte/data/default.html) and [CTE-ART](https://www.doe.mass.edu/ccte/cvte/data/vart.html) websites.

**About This Document**

Examining Enrollment Trends and Perkins Core Indicators are not new; nor is using them for programmatic improvement. Many CTE educators use these already and have been for years. Analyses like these inform Perkins Improvement Plans and Program Advisory Committee conversations; they are reported to school committees and serve as foundations for new program applications and other visits. Other CTE educators have moved away from them; intend to review them, while other priorities compete for attention; or do not know about them. Whatever the context, as systems and resources change, new interpretations are possible. This document describes resources that DESE makes available to districts for examining the Enrollment and Perkins Core Indicators and related measures and offers strategies and tools to use these in your district and as part of a comprehensive local needs assessment.

This document includes several sections:

**The Basics**

**What are the Perkins Core Indicators?**

**Using a Cycle of Inquiry**

**DESE’s Data Resources**

**Other Considerations**

**Analyzing** **Enrollment & Indicators:**

**Enrollment Analysis**

**Graduation Analysis 1S1**

**Academic Attainment Analysis 2S1, 2S2, 2S3**

**Postsecondary Outcomes Analysis 3S1**

**Nontraditional Enrollment Analysis 4S1**

**Program Quality Analysis 5S3**

**Synthesizing the Analyses**

**What Comes Next?**

**Resources**

**The Basics**

**What are the Perkins Core Indicators?**

The Perkins Act establishes an accountability system to assess the effectiveness of programs and to optimize the returns on CTE activities. This system is based on a set of accountability measures called the Perkins Core Indicators, which DESE calculates from [Student Information Management System](http://www.doe.mass.edu/infoservices/data/sims/) (SIMS) and other collections. Under the Strengthening Career and Technical Education Act for the 21st Century Act (Perkins V), signed into law in 2018, there were some changes to the Perkins Core Indicators, which went into full effect in the 2020-2021 school year. See DESE’s [Perkins V website](http://www.doe.mass.edu/ccte/cvte/perkins-v/) for the latest resources.

The state makes available to districts the Perkins Core Indicators, overall and disaggregated for select populations. These are useful for accountability purposes and in identifying strengths and gaps and can be used in identifying areas of improvement.

| **Perkins Core Indicators** under Perkins V  |
| --- |
| **Graduation Rates 1S1**Student graduation rates |
| **Academic Attainment in Language Arts, in Mathematics, and in Science 2S1, 2S2, 2S3**Student attainment of challenging academic content standards and student academic achievement standards, measured by state-determined proficiency levels on academic assessments in English/Language Arts, in mathematics, and in science |
| **Postsecondary Placement 3S1**Student placement in postsecondary education or advanced training, in military service, or in employment |
| **Nontraditional Program Enrollment 4S1**Student enrollment in career and technical education programs that lead to nontraditional careers for their gender |
| **Program Quality: Participated in Work-Based Learning 5S3**Student rates of participation in work-based learning, including completion of a pre-apprenticeship, cooperative education, internship, capstone project, a simulated work experience within an approved Chapter 74-approved program, or obtaining a high value industry-recognized credential |

For complete definitions of the Perkins Core Indicators and how they are calculated from SIMS and other data collections, see [DESE’s Perkins V website](http://www.doe.mass.edu/ccte/cvte/perkins-v/).

**Using a Cycle of Inquiry**

Enrollment trends andPerkins Core Indicators may be used to improve CTE programs and with it, improve outcomes for students. However, this does not happen simply from looking at a report. The possibility of improvement starts with understanding the enrollment trends and indicators themselves: in their entire nuance, for all students and groups of students, and across time. This thorough understanding can then be used as a platform to ask, why they are as they are; what to make of it; and what might be done differently. Possible changes can be identified, implemented, and monitored over time. When new results are available the following year, they can be compared to previous results and the whole process can begin again.

Educators in various roles can participate. School or district leadership such as superintendents, principals, CTE Directors and others can lead or prioritize this work; admissions coordinators, English Learner specialists, student support specialists and others can reflect on the analysis questions and practices. Technical Teachers and Academic Teachers can participate, answering the analysis questions for students in their programs and classes. School Counselors can reflect on the analysis questions for students on their caseloads. Data Specialists can use this to support teams in digesting the material in the reports themselves and draw connections to local data systems. These and others can use this to build a greater context of the Perkins Core Indicators and their powerful opportunity in leading to programmatic improvement.

Districts may have reflective inquiry routines in place already, where leaders and colleagues review data together, make meaning from it, and decide how to act on it. The Department makes available several resources to strengthen and supplement these practices. See links for the Early Warning Implementation Cycle and Planning for Success on the **Resources** page of this document for more.

**Note:**

Perkins Core Indicators refer to results of students who have graduated; as such, it can feel ‘out of date’ to refer to events that have happened in the past. On the other hand, if historical results are poorly understood or misunderstood, they may continue. Where possible, this guide refers to additional reports and tools to use to increase the relevance and timeliness of the analysis.

**DESE’s Data Resources**

The Department collects a wide range of data to help improve teaching and learning in Massachusetts schools. The state also uses school and student data to inform accountability system, which targets resources and assistance where they are needed most. Below is just a sample of tools available, and the ones that are most relevant right now for the CTE context.

Many resources, tools and reports are valuable for CTE educators:

* **SIMS Reports** is a secure application within [DESE’s Security Portal](https://gateway.edu.state.ma.us/edu/myportal/meoe). These [SIMS Reports](https://www.doe.mass.edu/infoservices/data/sims/sumreports.html) are valuable to review for accuracy *before certifying SIMS.*
	+ Select Career and Technical Education Students reports 9A or 9B for to see enrollment by program and grade.
	+ Select Comparison Report 11A and 11B to see a comparison to prior reporting.
* **CVTE Reports** is a CTE-specific and secure application within [DESE’s Security Portal](https://gateway.edu.state.ma.us/edu/myportal/meoe). Reports include Statewide Reports, District Enrollment and Follow-up Reports, and District Core Indicator reports for districts with Chapter 74 and Perkins programs. Results for both Perkins IV and Perkins V are available.
	+ The **Statewide Reports** show Enrollment and Follow-up Survey Results aggregated for all programs across the state.
	+ The **District** **Enrollment and Follow-up Reports** include the percentage and number of students enrolled in the district/school overall, and in each program, for selected populations, and show results of graduate follow-up surveys.
	+ The **District Core Indicator** **Reports** summarize an analysis of each indicator, and whether that indicator has been met or not, for the district population overall and for selected populations.
	+ The reports cover 2009 to the present.
	+ The Security Portal is available from the [Department’s main page](http://www.doe.mass.edu/). Access to CVTE Reports is managed locally by districts; contact the [District Directory Administrators](http://www.doe.mass.edu/InfoServices/data/diradmin/list.aspx) in your district to request access to the CVTE Reports database.
* [**CTE-ART**](https://www.doe.mass.edu/ccte/cvte/data/vart.html)Interactive CTE Trend Tools include **Chapter 74 Admissions Tool**, **CTE Population Trends** and **CTE Performance Trends** and more for districts with Chapter 74 programs. Technical school leaders and admission teams may use these reports to establish a common understanding of enrollment trends, inform collaboration with regional stakeholders, enhance recruitment and admission strategies, and thus better serve students across the Commonwealth.
* DESE’s[**Statistical Reports**](https://www.doe.mass.edu/infoservices/reports/enroll/) are publicly available and include CVTE Enrollment.
* [DESE’s **Profiles**](http://profiles.doe.mass.edu/) is publicly available. [Profiles](http://profiles.doe.mass.edu/) includes **Pathways/Programs Enrollment by Grade**, **by Race/Gender** and **by Selected Population**; in the **Statewide Reports / High School & Beyond** section and in each school’s / district’s Profiles pages, on the left.
* [School Finder](https://profiles.doe.mass.edu/search/get_closest_orgs.aspx) and [Massachusetts School Finder Statewide Planning](https://profiles.doe.mass.edu/search/masspathwaysview.aspx) list Programs/Pathways for each school.
* DESE’s [**District Analysis and Review Tools (DARTs)**](http://www.doe.mass.edu/dart/) are publicly available; these include the **Success after High School DART** and the **English Language Learner (ELL) DART**. The Success after High School DART summarizes school-level and reflects all the students in the high school. The ELL DART is reported at the district level and reflects English Learner students in districts.
* The state’s secure data warehouse, [**EDWIN**](http://www.doe.mass.edu/edwin/) **Analytics**, or **Edwin**, is a powerful reporting and data analysis tool that gives authorized users access to information that support improvements in teaching, learning and educational outcomes. Edwin is unique because it integrates longitudinal data from early education through post-secondary education and the workforce. Contact the [District Directory Administrators](http://www.doe.mass.edu/InfoServices/data/diradmin/list.aspx) or Edwin Contact in your district for access to Edwin. (From [DESE’s Profiles pages](http://profiles.doe.mass.edu/), type in your district, then select ‘People’, then search for the Edwin Contact.) Edwin resources include **Student Profile**, **EWIS** reports, **CVTE Students**, **Work Based Learning**, **MCAS** reports, **SEI Endorsement** reports and many more.
* [**Views of Climate and Learning (VOCAL)**](https://www.doe.mass.edu/research/vocal/default.html) is an annual survey sponsored by DESE. In 2019, participating students have been asked to share their views on three dimensions of school climate: Engagement, Safety and Environment.

The Department makes available new resources periodically, based on feedback, need and new requirements. Check the DESE websites periodically for more information (below), contact your district’s [liaison](https://www.doe.mass.edu/ccte/cvte/liaisons.html), and watch the [CCTE Team e-newsletter](https://us14.campaign-archive.com/home/?u=d8f37d1a90dacd97f207f0b4a&id=369689c327) for more.

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| [DESE Perkins V page](https://www.doe.mass.edu/ccte/cvte/perkins-v/)  | [CCTE Reporting/Data page](http://www.doe.mass.edu/ccte/cvte/data/) | [DESE Data & Accountability page](http://www.doe.mass.edu/DataAccountability.html)  |

**Other Considerations**

Admissions

See DESE’s [CTE Admissions](https://www.doe.mass.edu/ccte/cvte/admissions/default.html) for more on this important topic.

Data Confidentiality

Strong data practices start with data access. Review your school district’s policies about data access and data confidentiality and follow the data guidelines established by your district.

**Analyzing Enrollment & Indicators**

In this section, enrollment and indicators are explained, and descriptions of related Key Reports are provided. Guiding Questions and Tools are included to help teams analyze the reports. The questions and tools may be used as shown or adapted to fit the context.

**Enrollment Analysis**

Enrollment is not a Core Indicator. However, as all of the measures above are disaggregated by student groups, there are several reports designed for analyzing enrollment patterns in a district.

Key Reports:

* **CVTE Reports** include summaries of CVTE Program Enrollment, from 2007 to the current school year. **CVTE Reports** include Statewide and District Enrollment reports (Enrollment by Gender/Ethnicity, Enrollment by Special Population, Nontraditional Enrollment by Gender by Race/Ethnicity, Nontraditional Enrollment by Gender in Special Populations).
* **Edwin CV601 CVTE Students** report includes student-level details of students in Chapter 74 and non-Chapter 74 Perkins programs, along with other metrics relevant for CTE educators and leaders.
* [**CTE-ART**](https://www.doe.mass.edu/ccte/cvte/data/vart.html)Interactive CTE Trend Tools include Chapter 74 Admissions Tool, CTE Population Trends and CTE Performance Trends for districts with Chapter 74 programs. Technical school leaders and admission teams may use these reports to establish a common understanding of enrollment trends, inform collaboration with regional stakeholders, enhance recruitment and admission strategies, and thus better serve students across the Commonwealth.
* [DESE’s **Profiles** pages](http://profiles.doe.mass.edu/) are publicly available. **Profiles** shows the enrollment for districts and schools overall, and disaggregated by race/ethnicity, gender, and selected populations; and by **Pathways/Programs**.
* DESE’s[**Statistical Reports Enrollment Data**](https://www.doe.mass.edu/infoservices/reports/enroll/) are publicly available, with options for CVTE Enrollment files by District & Grade, and by District, Gender & Race.
* DESE’s [**District Analysis and Review Tools (DARTs)**](http://www.doe.mass.edu/dart/)includes an **English Language Learners DART**. The ELL DART summarizes characteristics of English Learners, including the top two languages spoken by EL students in each district. The tool does not include information on students who are not EL students.
* **CVTE Reports** and **Profiles** and other resources refer to various student population groups, defined [here](http://www.doe.mass.edu/ccte/cvte/perkins-v/enrollment.docx) and below:
	+ **Special Education** student or **Student with Disabilities**: student who has an Individualized Education Program (IEP)
	+ **Low-income** student: beginning with SY 2022, this replaced Economically Disadvantaged. For more, see this link: [Redefining Low-income Under the Student Opportunity Act (SY 2021-22)](https://www.doe.mass.edu/infoservices/data/sims/redefining-lowincome.html). For prior definitions, see **Low-income (prior to 2015)** and **Economically Disadvantaged (2015-2021)** at this link: [Profiles Help - About the Data - students](https://profiles.doe.mass.edu/help/data.aspx?section=students).
	+ **Limited English Proficient** student, or **English Learner (EL)**: student who is an English learner, defined as "a student whose first language is a language other than English who is unable to perform ordinary classroom work in English."
	+ **Students who are Homeless**
	+ **Military**-**connected students**: students with a parent who is a member of the armed forces and is on active duty.
	+ **Students in Foster** care: students who are in or have aged out of the foster care system.
* See also:
	+ [Special Education Planning and Policy](http://www.doe.mass.edu/sped/)
	+ [Students with Limited or Interrupted Formal Education](https://www.doe.mass.edu/ele/slife/)
	+ [English Learner Education](https://www.doe.mass.edu/ele/) and [English Learner Education Guidance](https://www.doe.mass.edu/ele/guidance/) – including **Guidance on the Initial Identification of English Learners**
	+ [Equity Roadmap](https://www.doe.mass.edu/edeffectiveness/equitableaccess/resources/)
	+ Edwin reports, including **CV601 CVTE Students**, **ACCESS for ELs**, **Student Profile** and **Student Learning Experiences** reports
	+ Local school details

Note on Students with disabilities:

Students with disabilities may have disabilities that vary widely, e.g.: health, specific learning disability, intellectual disability or others. The **nature of students’ primary disability** and **placement** are collected in SIMS; they are available in some Edwin reports and available locally.

Note on languages:

Many students and their families speak one or several languages at home, regardless of whether students are ELs. Students may also speak languages other than English at home; their parents may speak languages other than English predominantly; and their parents may be English Learners. Refer to Home Language Surveys, collected in districts, for more on the languages spoken in a community.

Reports may refer to students with these descriptions: a **former EL student** is a student not currently an English Learner, although has been at some point in the two previous academic years. A **First Language not English** (FLNE) student is a student whose first language is a language other than English. **Students with Limited or Interrupted Formal Education (SLIFE)** are described [here](https://www.doe.mass.edu/ele/slife/).

Guiding Questions:

* How does the CTE enrollment of this district compare to the region? In what way is it similar? In what way is it different?
* Are students from different population groups going through C74 application stages at similar rates?
* When looking at each program, are there any patterns for groups of students?
* Have enrollment patterns changed over time?
* Which programs are highest enrolled? Which are lowest enrolled?
* Are there participation gaps? Where are participation gaps the biggest?
* Are there any student groups for which there are a small number of students in the school?
* Are there any student groups for which there are a small number of students in programs?
* How does the CTE enrollment of this school compare to similar schools and district/member districts’ enrollment overall?

Examples:

* In one district, the CTE Director examined trends and noticed that for several years, the number of students with disabilities were high in one program. Upon investigating the local data, they saw that students’ primary disabilities varied widely.
* In another district, leadership noticed that Hispanic/Latino students were enrolled in a few programs predominantly; this was also the case for students who were low income.
* In one district, school leaders saw that the number of EL students was very low: just a few students applied each year. They were not very surprised, as their region did not have a large EL population. Last year, enrollment in EL students increased.
* Using the English Learner DART, one school learned that their district or region had an English Learners population of about 2%. For a school of their size, this meant they might expect about six students annually who were EL.
* In one district, school leaders examined district enrollment trends compared to the region; they found that for many student groups, the district enrollment was comparable, but for one population group, there was a gap.

**Tool: Enrollment Analysis**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **Enrollment** | **Reports** | **Data Notes** |
| Starting with All Towns, and checking for each student group, are students applying at rates comparable to those who are eligible? | Chapter 74 Admissions Tool |  |
| Starting with All Towns, and checking for each student group, are students going through the application stages at similar rates? |  |
| Do results change for Member Municipalities?  |  |
| Are there Application Gaps, or gaps in the percentage of students submitting Complete Applications?  |  |
| Are there Opportunity Gaps by student groups, or gaps in the percentage of Offers Made to students? |  |
| Are there yield gaps, or gaps in the percentage of Offers Accepted by students? |  |
| How many students are in each student group and stage? |  |
| Checking for each student group, is the percentage of students who attend from a region similar to those who are eligible from the region?  | CTE Population Trend |  |
| Has this changed over time?  |  |
| Checking for member municipalities, is the percentage of students who attend from a member municipality similar to those who are eligible from the member municipality? |  |
| Is Grade 9 different from Grades 9-12?  |  |
| How many students are in each student group and year? |  |  |
| Which programs are the highest enrolled? (excluding Exploratory) | CVTE Enrollment by Special Populations |  |
| Which programs are the lowest enrolled?  |  |
| Are any student groups disproportionally represented in some programs?  |  |
| Are there any student groups for which there are a small number of students in the school?  |  |
| Are there any student groups for which there are a small number of students in some programs? |  |
| How has enrollment at our school changed over time? |  |
| Which programs are the highest enrolled? (excluding Exploratory) | CVTE Enrollment by Race/Ethnicity |  |
| Which programs are the lowest enrolled?  |  |
| Are any student groups disproportionally represented in some programs?  |  |
| Are there any student groups for which there are a small number of students in the school?  |  |
| Are there any student groups for which there are a small number of students in some programs? |  |
| How has enrollment at our school changed over time? |  |
| How does the CTE enrollment of this school compare to enrollment of similar schools, for Selected Populations? | Profiles: Students |  |
| How does the CTE enrollment of this school compare to enrollment of district, or of combined member districts, for Selected Populations? |  |
| How does the CTE enrollment of this school compare to enrollment of similar schools, for Race/Ethnicity? |  |
| How does the CTE enrollment of this school compare to enrollment of district, or of combined member districts, for Race/Ethnicity? |  |
| How does program enrollment vary across grades?  | Enrollment  |  |
| Who are the students in Chapter 74 programs? | Edwin CV601 |  |

**Graduation Analysis**

CVTE Graduation Rate Core Indicator 1S1 refers to graduation rate.

Key Reports:

* **CVTE Reports** include CVTE Graduation Rate Core Indicator 1S1
* [**Success after High School DART**](http://www.doe.mass.edu/dart/) offers a snapshot of high school performance. ‘Home’ and ‘HS Indicators’ sheets show graduation rates and other related indicators over time. Users can see trends for all students, or filter for selected populations. This tool allows for comparison to the state and to similar schools. See video #2 at <https://www.doe.mass.edu/ccte/ccr/resources/data.html>.
* See also:
	+ The [**Success after High School DART**](http://www.doe.mass.edu/dart/) Program of Studies sheet

Note: Students who pass all grade 9 courses have a higher rate of graduating in four years than students who fail one or more courses. The [**Success after High School DART**](http://www.doe.mass.edu/dart/) Program of Studies sheet includes trends on students completing and passing 9th grade courses.

* + **CVTE Reports:** District Enrollment reports (Enrollment by Gender/Ethnicity, Enrollment by Special Population, Nontraditional Enrollment by Gender by Race/Ethnicity, Nontraditional Enrollment by Gender in Special Populations)
	+ [EWIS](https://www.doe.mass.edu/ccte/ccr/ewis/) resources and EWIS reports in [Edwin](http://www.doe.mass.edu/edwin/)
	+ Local school details

Guiding Questions:

* What is the overall nature of students’ graduation rates?
* In looking at graduation rates for all students and for student groups, where are the biggest gaps?
* How have graduation rates changed over time?
* When looking at graduation rates for this school compared to schools like it, what are the biggest differences?
* When looking at graduation rates for this school compared to the state, what are the biggest differences?

**Tool: Graduation Analysis**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **Graduation** | **Reports** | **Data Notes** |
| When looking at **Total** students, does our school meet or exceed the Local Adjusted Performance Level for this indicator?  | CVTE Graduation Rate Core Indicator |  |
| When looking at **Total** students, is the Local Actual Performance Level under 100%? |  |
| When looking at **student groups,** for which student groups does our school meet or exceed the Local Adjusted Performance Level for this indicator? |  |
| When looking at **student groups**, for which student groups is the Local Actual Performance Level under 100%? |  |
| Are there **student groups** for which the number of students in the denominator is zero?  |  |
| Looking back at previous years, are the results very different from this year’s results? |  |
| How has the graduation rate at my school changed over time? | Success after High School DART: HS Indicators |  |
| For which populations are the graduation rates higher?  |  |
| For which populations are the graduation rates lower? |  |
| How has the 9th grade passing rate at my school changed over time? | Success after High School DART: Program of Studies |  |
| For which populations are the 9th grade passing rates higher?  |  |
| For which populations are the 9th grade passing rates lower? |  |
| How does the graduation rate at my school compare to that of other schools? | DART: Home |  |

**Academic Attainment Analysis**

CVTE Academic Attainment Language Arts Core Indicator 2S1, CVTE Academic Attainment Math Core Indicator 2S2, and Academic Attainment Science Core Indicator 2S3 refer to students’ attainment of challenging academic content standards and student academic achievement standards; they are measured using MCAS.

Key Reports:

* **CVTE Reports** include CVTE Academic Attainment Language Arts Core Indicator 2S1 and CVTE Academic Attainment Math Core Indicator 2S2 and over time, CVTE Academic Attainment Science Core Indicator 2S3
* Reports in **Edwin** include MCAS analyses, summaries and rosters. High schools may find these reports particularly useful in examining students’ understanding of ELA, math and science:
	+ CU406 MCAS School Results by Standards
	+ PE304 MCAS District Results by Group
	+ IT616 MCAS Student Item Analysis Roster
	+ IT301/401 MCAS Item Analysis Summary
	+ IT302/402 MCAS Item Analysis Graph
	+ PE606 Assessment Detail
* [**Profiles** MCAS school achievement](http://profiles.doe.mass.edu/statereport/nextgenmcas.aspx) shows schools’ CPI (on legacy MCAS) and percentiles from 1-99 (on Next Gen MCAS). These illustrate a school’s performance in comparison to schools across the state and are available by student group and subject.
* See also:
	+ **CVTE Reports** include several District Enrollment reports (Enrollment by Gender/Ethnicity, Enrollment by Special Population, Nontraditional Enrollment by Gender by Race/Ethnicity, Nontraditional Enrollment by Gender in Special Populations)
	+ [Massachusetts Vocational Technical Education Framework](https://www.doe.mass.edu/ccte/cvte/frameworks/), Strand 3: Embedded Academics

Note: Embedded academics is a critical piece of Vocational Technical Education (VTE). In the Appendix of each VTE Framework, embedded academics is presented as a crosswalk between VTE Learning Standards and ELA; math; and science, technology and engineering learning standards from the [Massachusetts Curriculum Frameworks](http://www.doe.mass.edu/frameworks/).

* + [Massachusetts Learning Standards](http://www.doe.mass.edu/frameworks/) and [Standards Navigators](http://www.doe.mass.edu/frameworks/search/default.aspx)
	+ [Learning about Edwin Reports](https://www.doe.mass.edu/edwin/reporttool-iframe.html) and [Resources on Using Edwin](http://www.doe.mass.edu/edwin/resources.html)
	+ Local school details

Guiding Questions:

* What is the overall nature of students’ performance on ELA MCAS?
* When looking at performance for various student groups, where are the biggest achievement gaps in ELA?
* Which ELA clusters and domains are most challenging for students in our school/district, compared to how well students statewide performed?
* When looking at differences between students in our school and students across the state, which ELA clusters and domains have biggest differences?
* What is the overall nature of students’ performance on math MCAS?
* When looking at performance for various student groups, where are the biggest achievement gaps in math?
* Which math clusters and domains are most challenging for students in our school/district, compared to how well students statewide performed?
* What is the overall nature of students’ performance on science MCAS?
* When looking at performance for various student groups, where are the biggest achievement gaps in science?
* Which science clusters and domains are most challenging for students in our school/district, compared to how well students statewide performed?
* When looking at differences between students in our school and students across the state, which math clusters and domains have biggest differences?
* Are there meaningful differences between school and district performance, for districts that have multiple schools at the same grade?

Examples:

* In one district, educators saw that students were performing poorly on the ELA MCAS. Using the Edwin reports, they determined that students were doing poorly in writing specifically.
* In another district, educators saw that students were performing poorly on math MCAS. They examined the details and learned that students were not strong in several content areas.

**Tool: Academic Attainment Analysis**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **ELA** | **Reports** | **Data Notes** |
| When looking at **Total** students, does our school meet or exceed the Local Adjusted Performance Level for this indicator?  | CVTE Academic Attainment Language Arts Core Indicator |  |
| When looking at **Total** students, is the Local Actual Performance Level under 100%? |  |
| When looking at **student groups,** for which student groups does our school meet or exceed the Local Adjusted Performance Level for this indicator? |  |
| When looking at **student groups**, for which student groups is the Local Actual Performance Level under 100%? |  |
| Are there **student groups** for which the number of students in the denominator is zero?  |  |
| Looking back at **previous years**, are the results very different from this year’s results? |  |
| When looking at **Total** students, does our school meet or exceed the Local Adjusted Performance Level for this indicator?  | CVTE Academic Attainment Math Core Indicator |  |
| When looking at **Total** students, is the Local Actual Performance Level under 100%? |  |
| When looking at **student groups,** for which student groups does our school meet or exceed the Local Adjusted Performance Level for this indicator? |  |
| When looking at **student groups**, for which student groups is the Local Actual Performance Level under 100%? |  |
| Are there **student groups** for which the number of students in the denominator is zero?  |  |
| Looking back at **previous years**, are the results very different from this year’s results? |  |

**Tool: ELA MCAS Deep Dive**

Choose questions from the sample list below, or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **ELA** | **Reports** | **Data Notes** |
| For which Standards (Domain/Cluster) do students statewide have the lowest **State % Possible Points**? This is an indicator of item difficulty. | Edwin CU406 MCAS School Results by Standards |  |
| For which Standards (Domain/Cluster) does our school have the largest negative difference (in red), when looking at **School/State Diff**? |  |
| For which Standards (Domain/Cluster) does our school have the lowest **School % Possible Points**? |  |
| For the student groups identified above, which Standards (Domain/Cluster) does our school have the largest negative difference to the state (in red), when looking at **School/State Diff**? |  |
| For the student groups identified above, which Standards (Domain/Cluster) does our school have the lowest **School % Possible Points**? |  |
| How does our school and district perform compared to the state?  | IT301/401 MCAS Item Analysis and IT302/402 MCAS Item Analysis |  |
| How does our school perform compared to other schools across the state, when looking at schoolwide results? | Profiles MCAS school achievement  |  |
| How does our school perform compared to other schools across the state, when looking results for student groups identified? |  |

**Tool: Math MCAS Deep Dive**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **ELA** | **Reports** | **Data Notes** |
| For which Standards (Domain/Cluster) do students statewide have the lowest **State % Possible Points**? This is an indicator of item difficulty. | Edwin CU406 MCAS School Results by Standards |  |
| For which Standards (Domain/Cluster) does our school have the largest negative difference (in red), when looking at **School/State Diff**? |  |  |
| For which Standards (Domain/Cluster) does our school have the lowest **School % Possible Points**? |  |  |
| For the student groups identified above, which Standards (Domain/Cluster) does our school have the largest negative difference to the state (in red), when looking at **School/State Diff**? |  |  |
| For the student groups identified above, which Standards (Domain/Cluster) does our school have the lowest **School % Possible Points**? |  |  |
| How does our school and district perform compared to the state?  | IT301/401 MCAS Item Analysis and IT302/402 MCAS Item Analysis |  |
| How does our school perform compared to other schools across the state, when looking at schoolwide results? | Profiles MCAS school achievement  |  |
| How does our school perform compared to other schools across the state, when looking results for student groups identified? |  |  |

**Tool: Science MCAS Deep Dive**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **ELA** | **Reports** | **Data Notes** |
| For which Standards (Domain/Cluster) do students statewide have the lowest **State % Possible Points**? This is an indicator of item difficulty. | Edwin CU406 MCAS School Results by Standards |  |
| For which Standards (Domain/Cluster) does our school have the largest negative difference (in red), when looking at **School/State Diff**? |  |  |
| For which Standards (Domain/Cluster) does our school have the lowest **School % Possible Points**? |  |  |
| For the student groups identified above, which Standards (Domain/Cluster) does our school have the largest negative difference to the state (in red), when looking at **School/State Diff**? |  |  |
| For the student groups identified above, which Standards (Domain/Cluster) does our school have the lowest **School % Possible Points**? |  |  |
| How does our school and district perform compared to the state?  | IT301/401 MCAS Item Analysis and IT302/402 MCAS Item Analysis |  |
| How does our school perform compared to other schools across the state, when looking at schoolwide results? | Profiles MCAS school achievement  |  |
| How does our school perform compared to other schools across the state, when looking results for student groups identified? |  |  |

**Postsecondary Outcomes Analysis**

CVTE Placement Core Indicator 3S1 refers to student placement in postsecondary education or advanced training, in military service, or in employment.

Key Reports:

* **CVTE Reports** include CVTE Placement Core Indicator 3S1
* Reports in **Edwin** include analyses, summaries and rosters with postsecondary outcomes and are found in the High School and Beyond folder. High schools may find these reports particularly useful in examining students’ postsecondary outcomes –
	+ PS Outcomes of HS Grads Reports
	+ CVTE Pathways Report
	+ Employment and Earnings Report
	+ Postsecondary Pathways and Earnings of High School Graduates
* [**Success after High School DART**](http://www.doe.mass.edu/dart/) offers a snapshot of high school performance. Home and Postsecondary Outcomes sheets show participation in postsecondary education over time. Users can see trends for all students, or filter for selected populations. This tool allows for comparison to the state and to similar schools. See CCR Part 4 at <https://www.doe.mass.edu/ccte/ccr/resources/data.html>.
* **Graduate Follow-up Survey Results** on the [CVTE Data](http://www.doe.mass.edu/ccte/cvte/data/) page and **CVTE Reports: Graduate Follow-up Survey Results** show summarized results of the Career/Vocational Technical Education Graduate Follow-up surveys. For more on the surveys, see **Instructions for School Districts in Reporting Data for Career/Vocational Technical Education** on [CTE Data](http://www.doe.mass.edu/ccte/cvte/data/).
* See also:
	+ **CVTE Reports**: District Enrollment reports (Enrollment by Gender/Ethnicity, Enrollment by Special Population, Nontraditional Enrollment by Gender by Race/Ethnicity, Nontraditional Enrollment by Gender in Special Populations)
	+ [EWIS](https://www.doe.mass.edu/ccte/ccr/ewis/) resources and EWIS reports in [Edwin](http://www.doe.mass.edu/edwin/)
	+ FAFSA Completion reports in [Edwin](http://www.doe.mass.edu/edwin/)
	+ [Three Educational Pathways to Good Jobs](https://cew.georgetown.edu/cew-reports/3pathways/)
	+ Local school details

Guiding Questions:

* What is the overall nature of students’ placement rates?
* In looking at placement rates for all students and for student groups, where are the biggest gaps?
* How have placement rates changed over time?
* When looking at enrollment in postsecondary education for this school compared to schools like it, what are the biggest differences?
* When looking at enrollment in postsecondary education for this school compared to the state, what are the biggest differences?
* When looking at outcomes for graduates who enroll in MA public postsecondary education, for which programs do students continue in their cluster?
* When looking at Graduate Follow-up Survey results, for which programs are students meeting positive placements, according to the Perkins definition and the Chapter 74 definition?
* To what extent can Edwin reports supplement the Graduate Follow-up Survey results? (for example, the PS Outcomes for HS Grads report, Employment and Earnings report and Pathways and Earnings Report)
* In what industries are graduates reporting earnings (according to MA wage records)?
* Do earnings vary across postsecondary pathways and clusters?
* Do earnings vary by student group?

Examples:

* Looking at CVTE Placement Rate results for one district, a team saw that many students attained positive placements across programs. They were happy with the results and moved on to examine other areas that may need attention.
* In another district, a principal looked at the Employment and Earnings report. He was surprised by the number of graduates working in retail several years after graduating from high school and shared the results with others on the CTE leadership team.

**Tool: Postsecondary Outcomes Analysis**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **Placement/Postsecondary Outcomes** | **Reports** | **Data Notes** |
| When looking at **Total** students, does our school meet or exceed the Local Adjusted Performance Level for this indicator?  | CVTE Placement Rate Core Indicator |  |
| When looking at **Total** students, is the Local Actual Performance Level under 100%? |  |
| When looking at **student groups,** for which student groups does our school meet or exceed the Local Adjusted Performance Level for this indicator? |  |
| When looking at **student groups**, for which student groups is the Local Actual Performance Level under 100%? |  |
| Are there **student groups** for which the number of students in the denominator is zero?  |  |
| Looking back at previous years, are the results very different from this year’s results? |  |
| How do the postsecondary outcomes at our school compare to that of other schools?  | Success after High School DART Tool: Home and Postsecondary Outcomes |  |
| How has postsecondary enrollment at our school changed over time? |  |
| For which populations are the postsecondary enrollment rates higher?  |  |
| For which populations are the postsecondary enrollment rates lower? |  |
| For students who graduate HS and continue into MA public education, how many students continue in technical programs related to their cluster? | CVTE Graduate Pathways Summary |  |
| Does Postsecondary education outcome vary by student characteristics; institution type; academic preparation? | PS Outcomes of HS Grads |  |
| For which programs do students attain positive placements, according to the Perkins definition? | CVTE Graduate Follow-up Data |  |
| For which programs do students attain positive placements, according to the Chapter 74 definition? |  |
| Are the numbers reported in College and Career Outcomes consistent with expectations from the Graduate Follow-up Data? | Employment and Earnings Report |  |
| Are graduates employed in industries consistent with expectations, given the programs offered? |  |
| Are the percentiles of earnings across postsecondary pathways consistent with expectations? | Pathways and Earnings of High School Graduates |  |
| Are the percentiles of earnings across postsecondary pathways within each meta-major consistent with expectations? |  |
| Do the top industries of graduates match expectations? |  |

**Nontraditional Enrollment Analysis**

CVTE Nontraditional Participation Core Indicator 4S1 refers to student enrollment in programs that prepare them for careers nontraditional for their gender.

Key Reports:

* **CVTE Reports** include CVTE Nontraditional Enrollment Core Indicator 4S1
* See also:
	+ **CVTE Reports**: District Enrollment reports (Enrollment by Gender/Ethnicity, Enrollment by Special Population, Nontraditional Enrollment by Gender by Race/Ethnicity, Nontraditional Enrollment by Gender in Special Populations)
	+ Filters in **Edwin** reports and **Profiles** reports

Note: Many performance and outcome reports in **Edwin** and **Profiles** include filters to view results by gender. Disaggregating results by gender may illustrate differences that are otherwise masked.

* + “Nontraditional by gender careers” are those for which individuals from one gender comprise less than 25% of individuals employed in each such occupation or field of work. Massachusetts uses the lists of nontraditional careers produced by the National Alliance for Partnerships Equity (NAPE) and the Massachusetts Supplement to the NAPE Nontraditional by Gender Lists, posted at the Gender Equity link.
	+ [Nontraditional Career Preparation: Root Causes and Strategies](https://www.napequity.org/root/) from National Alliance for Partnerships in Equity
	+ Note on Exploratory: districts with five or more Chapter 74 programs offer an Exploratory program. Exploratory programs provide for ninth grade students to explore at least one program that would prepare them for a career nontraditional for their gender if the district has such program(s).
	+ Local school details, including Exploratory patterns and trends

Guiding Questions:

* What is the overall nature of students’ participation in programs nontraditional for their gender? What is the overall nature of students’ completion?
* How have these rates changed over time?
* In looking at nontraditional participation rates for all students and for student groups, where are the biggest gaps?
* In looking at nontraditional completion rates for all students and for student groups, where are the biggest gaps?
* Which nontraditional programs are offered?
* Which programs enroll the highest number of students overall, and which enroll the highest number of students in the nontraditional gender?
* What are the earnings for industries related to nontraditional programs?

Examples:

* In one district, a school’s nontraditional participation and completion rates were very low. Disaggregating by program, a CTE Director found that the number of girls in one (nontraditional) program was very high. In looking at trends, she saw that this had been a trend for several years.
* In another district, another CTE Director saw that the number of boys in one (nontraditional) program was higher than average.
* In a third district, a CTE Director examined Exploratory trends to see if there were patterns for students enrolling in programs nontraditional for their gender. She noticed that for some students choosing programs nontraditional for their gender, they had been in Exploratory with others of their gender.

Note: Sometimes the phrase ‘nontraditional for their gender’ is shortened to ‘NTBG’ or ‘nontrad’, and students in these programs are noted as NTBG students or ‘nontrad’ students. In practice and when discussing the program options with students, districts may want to use another name or phrase to describe these programs.

**Tool: Nontraditional Enrollment Analysis**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **Placement/Postsecondary Outcomes** | **Reports** | **Data Notes** |
| When looking at **Total** students, does our school meet or exceed the Local Adjusted Performance Level for this indicator?  | CVTE Nontraditional Enrollment Core Indicator |  |
| When looking at **Total** students, is the Local Actual Performance Level under 100%? |  |
| When looking at **student groups,** for which student groups does our school meet or exceed the Local Adjusted Performance Level for this indicator? |  |
| When looking at **student groups**, for which student groups is the Local Actual Performance Level under 100%? |  |
| Are there **student groups** for which the number of students in the denominator is zero?  |  |
| Looking back at previous years, are the results very different from this year’s results? |  |
| What percentage and how many students are NTBG? | CVTE Enrollment by Special Population |  |
| For which programs are the number and percentage of NTBG students lower? |  |
| For which programs are the number and percentage of NTBG students higher? |  |
| Looking back at previous years, are the results very different from this year’s results? |  |
| For industries related to the NTBG programs, what are the average earnings?  | Employment and Earnings Report |  |
| For industries related to the NTBG programs, how many are employed? |  |
| Do average annual earnings vary by gender? |  |

**Program Quality Analysis**

CVTE Program Quality – Work Based Learning 5S3 refers to the rate of students participating in work-based learning experiences, including completion of a pre-apprenticeship, cooperative education, internship, capstone project, a simulated work experience within an approved Chapter 74-approved program, or obtaining a high value industry-recognized credential as by a school.

Key Reports:

* **CVTE Reports** include CVTE Program Quality Core Indicator 5S3
* [**CTE-ART**](https://www.doe.mass.edu/ccte/cvte/data/vart.html)link for [Industry Recognized Credentials](https://app.powerbigov.us/view?r=eyJrIjoiMjg1OWY0MzQtYTM3NC00OGNhLTk4MWYtMzBjZDExNWViNWJlIiwidCI6IjNlODYxZDE2LTQ4YjctNGEwZS05ODA2LThjMDRkODFiN2IyYSJ9)
* See also:
	+ [**SIMS Data Handbook**](http://www.doe.mass.edu/infoservices/data/sims/sims-datahandbook.docx) data elements DOE 047-049 Industry Recognized Credentials and Appendix D: Industry Recognized Credentials
	+ **CVTE Reports:** District Enrollment reports (Enrollment by Gender/Ethnicity, Enrollment by Special Population, Nontraditional Enrollment by Gender by Race/Ethnicity, Nontraditional Enrollment by Gender in Special Populations)
	+ Edwin report **CV602 Work Based Learning Report**
	+ Local school details

Guiding Questions:

* What is the overall nature of students’ rates of work-based learning participation?
* In looking at work-based learning rates for all students and for student groups, where are the biggest gaps?
* How have these rates changed over time?
* When looking at rates for this school compared to the state, what are the biggest differences?

**Tool: Program Quality Analysis**

Choose questions from the sample list below or devise your own questions.

|  |  |  |
| --- | --- | --- |
| **Technical Skill Attainment** | **Reports** | **Data Notes** |
| When looking at **Total** students, does our school meet or exceed the Local Adjusted Performance Level for this indicator?  | CVTE Program Quality  |  |
| When looking at **Total** students, is the Local Actual Performance Level under 100%? |  |
| When looking at **student groups,** for which student groups does our school meet or exceed the Local Adjusted Performance Level for this indicator? |  |
| When looking at **student groups**, for which student groups is the Local Actual Performance Level under 100%? |  |
| Are there **student groups** for which the number of students in the denominator is zero?  |  |
| Looking back at **previous years**, are the results very different from this year’s results? |  |
| Which credentials are earned? By students in which programs?  | Industry Recognized Credentials |  |

**Synthesizing the Analyses**

Sometimes the challenge is not one of reporting and analysis, but of synthesis and prioritization. Use this section to synthesize findings from the previous analyses and prioritize areas to better understand. Choose questions from the sample list below or devise your own questions.

Guiding Questions

* What do we make of this?
* Is this expected? Is it surprising?
* Which data points are least concerning?
* Which data points are most concerning?
* Which observations warrant further digging?
* What additional questions are raised?
* What are possible next steps?

**Tool: Synthesizing the Perkins Core Indicators**

Identify areas of strength and areas of concern using the list below or devise your own categories.

|  |  |  |
| --- | --- | --- |
| **Perkins Core Indicators** (all students) | **Areas of Strength** | **Areas of Concern** |
| **Graduation Rates** |  |  |
| **Academic Attainment in Language Arts**  |  |  |
| **Academic Attainment in Mathematics** |  |  |
| **Academic Attainment in Science** |  |  |
| **Placement** |  |  |
| **Nontraditional by Gender Enrollment** |  |  |
| **Program Quality**  |  |  |

**Tool: Synthesizing the Perkins Core Indicators by student groups**

Identify Key Findings using the list below or devise your own categories.

|  |  |
| --- | --- |
| **Perkins Core Indicators** (by student groups) | **Key Findings** |
| **Gender*** Male
* Female
 |  |
| **Race/Ethnicity*** American Indian/Native American
* Asian
* Black or African American
* Hispanic/Latino
* Multi-racial
* Native Hawaiian or Pacific Islander
* White
 |  |
| **Students with Disabilities** |  |
| **English Learners** |  |
| **Low Income students** |  |
| **Students who are Homeless**  |  |
| **Students in Foster Care** |  |
| **Students connected to Military** |  |

**Tool: Synthesizing Enrollment**

Identify Key Findings using the list below or develop your own categories.

|  |  |
| --- | --- |
| **Enrollment**  | **Key Findings** |
| **Admission** |  |
| **Population Trends** |  |
| **Enrollment by program** |  |
| **Enrollment by special populations** |  |
| **Enrollment by race/ethnicity**  |  |
| **Enrollment by gender** |  |
| **District/region or catchment area**  |  |
| **Member municipalities** |  |

**Tool: Synthesizing Enrollment**

Choose questions from the sample list below or develop your own questions.

|  |  |
| --- | --- |
| **Prioritizing**  | **Notes** |
| Which observations warrant **further digging** to understand more fully? |  |
| Are there any **additional areas of concern**? |  |
| What **additional questions** are raised? |  |
| Based on this review, what are the **highest priority areas** to understand better?  |  |
| What are **possible next steps?** |  |

**What Comes Next?**

These reports show the trends or outcomes, but not why, or what to do differently for different results. Getting to the underlying reason or reasons causing outcomes – sometimes called a *causal analysis –* is an important step toward achieving different results. And even if exact causes are not identified, reviewing with stakeholders, community partners and others can surface different perspectives. This can inform responses and interventions, and lead to other changes.

Examples:

For a few examples shared earlier in the document, there is more to the story:

* In one district, educators saw that students were performing poorly on math MCAS. Using Edwin reports, they held a ‘deep dive’ into math MCAS results for 10th graders over the past several years and learned that students were not strong in several content areas in math. Later, they used a structured approach, which allowed them to identify possible causes of the low math performance, and then verified the causes using research and local data. Through this, they concluded that the *underlying cause* of the math performance was that the teachers did not feel prepared to teach or assist students who were several grade levels behind in math. The team then committed to focus upcoming professional development, specifically in that area.
* In one district, a school’s nontraditional participation and completion rates were low. Disaggregating by program, a CTE Director found that the number of girls in one (nontraditional) program was very high. In looking at trends, she saw that this had been a trend for several years. She interviewed the lead teacher and learned of some very specific strategies he was using. He sent out regular updates about what they were doing in class; gave students frequent feedback; and talked about what it was like to work in this field. Although none was gender-specific, the strategies helped all students – girls included – feel excited about the field and clear about their progress.
* In another school, a CTE Director saw that the number of boys in one (nontraditional) program was higher than average. In talking with the teacher, it was revealed that the teacher showed students the financial outlook for the field, explained that it was a field with growing demand in their region and across the state, and discussed it as a viable career option.
* In one district, school leaders examined district enrollment trends compared to the region; they found that for many student groups, the district enrollment was comparable, but for one population group, there was a gap. The district used the member municipality details to check their understanding of local enrollment trends, then developed a plan to strengthen collaboration with local partners.

DESE has several resources, strategies, and technical assistance available to support educators in investigating root and exploring strategies for programmatic or other changes. These strategies may be slow going, challenging to implement or require discovery. Finding creative ways to take these on can pay big dividends when it comes to meeting students where they are, building on their strengths and addressing gaps.

This is an exciting time.

**Resources**

CTE Resources from DESE’s Office for College, Career and Technical Education:

* <http://www.doe.mass.edu/ccte/cvte/>

Other Resources from DESE:

* Security Portal <https://gateway.edu.state.ma.us/edu/myportal/meoe>
* District Directory Administrators <http://www.doe.mass.edu/InfoServices/data/diradmin/list.aspx>
* Profiles pages <http://profiles.doe.mass.edu/>
* District Analysis and Review Tools (DARTs) <http://www.doe.mass.edu/dart/>
* EDWIN Analytics <http://www.doe.mass.edu/edwin/>
* Views of Climate and Learning (VOCAL) <https://www.doe.mass.edu/research/vocal/default.html>
* Data & Accountability web page <http://www.doe.mass.edu/DataAccountability.html>
* Massachusetts Curriculum Frameworks <http://www.doe.mass.edu/frameworks/>
* Standards Navigators <http://www.doe.mass.edu/frameworks/search/default.aspx>
* Learning about Edwin Reports <https://www.doe.mass.edu/edwin/reporttool-iframe.html>
* Resources on Using Edwin <http://www.doe.mass.edu/edwin/resources.html>
* Student Information Management System (SIMS) <http://www.doe.mass.edu/infoservices/data/sims/>
* Student population groups defined <http://profiles.doe.mass.edu/help/data.aspx?section=students>
* Equity Roadmap: <https://www.doe.mass.edu/edeffectiveness/equitableaccess/resources/>
* Special Education Planning and Policy <http://www.doe.mass.edu/sped/>
* English Learner Education <https://www.doe.mass.edu/ele/>
* Students with Limited or Interrupted Formal Education <https://www.doe.mass.edu/ele/slife/>
* [EWIS](https://www.doe.mass.edu/ccte/ccr/ewis/) Early Warning Implementation Cycle
* [Planning for Success](https://www.doe.mass.edu/research/success/)
* [Acceleration Roadmap](https://www.doe.mass.edu/covid19/on-desktop.html)

Other Resources:

* US Department of Education – [CTE Data Story](https://www2.ed.gov/datastory/cte/index.html)
* Nontraditional Career Preparation: Root Causes and Strategies <https://www.napequity.org/root/>
* Three Educational Pathways to Good Jobs <https://cew.georgetown.edu/cew-reports/3pathways/>
* Data Wise <https://datawise.gse.harvard.edu/>
* The Data Coach’s Guide to Improving Learning for All Students

By Nancy Love, Katherine E. Stiles, Susan E. Mundry, Kathryn DiRanna. Corbin Press, 2008.

* Massachusetts Association of Teachers of Speakers of Other Languages <https://www.matsol.org/>