Beyond the Numbers: Strategies for Effectively Reporting and Communicating CTE Data

Advance CTE
January 28, 2021
Speakers

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Manager of Data & Research
Advance CTE

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State CTE Director
Nebraska Department of Education
Data? What’s the Point?

It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.
Perkins V Reporting Requirements

- Disaggregate indicators by race/ethnicity, gender, migrant status (sec only) and special population groups.
- Report disaggregated performance indicators by Career Cluster and/or program or program of study.
- Identify and quantify gaps in performance between groups of learners.
- Publicly report the performance of all CTE students and subgroups of learners statewide and locally.
Challenges

- Ensuring access and differentiating resources by audience
- Developing user-friendly resources that allow for easy interpretation
- Using data to craft a compelling narrative
- Improving the quality of data
Shared Solutions Workgroup

Design Principles

https://careertech.org/resource/beyond-numbers-design-principles-CTE-data-reporting

Communications Toolkit

https://careertech.org/resource/beyond-numbers-toolkit-communicating-CTE-data
Design Principles

- Clearly and Consistently Label and Describe Data
- Make Data Accessible
- Disaggregate Data to Highlight Equity
- Make Data Easy to Find
- Make Data Visually Appealing
- Provide Context to Add Meaning
- Enable Interactivity/Customization for Key Audiences
- Help Users Interpret Data and Take Action
- Clarify the Purposes for Sharing Data

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Clarify the Purposes for Sharing Data

- Set clear objectives (accountability, career guidance, improving programs, etc.)
- Consider appropriate reporting tools (report cards, dashboards, fact sheet, etc.)
Make Data Easy to Find

- Use key words and clear labels to optimize search engine compatibility.
- Ensure your website has clear information on how users can navigate to and access CTE data.
Make Data Visually Appealing

Design experts recommend:
- Data that is ordered for the viewer (by frequency or time period)
- Horizontal labels positioned near the data
- Hierarchical text size (larger titles and smaller labels)
- Text color that contrasts with the background color
- Sparing use of borders, gridlines and axis lines

Helpful Resource
Stephanie Evergreen’s Data visualization Checklist
Make Data Visually Appealing

Bar Charts

Line Charts

Geographic Maps

Treemaps

Heatmaps

Percent Change in Employment

Programs/Unit Charts

Source: KYSTATS

Source: Ohio Department of Education

Source: Wisconsin Department of Public Instruction

Source: Data USA
Clearly and Consistently Label and Describe Data

- Avoid jargon and “edu-speak”
- Use tooltips to provide additional detail
- Use consistent definitions and terminology

Source: KYSTATS
Make Data Accessible

• Use sans serif fonts, color contrast and alt text to make data accessible for users with low vision
• Translate data into common languages used in your state/community
• Make data available in different formats

Helpful Resource
NoCoffee Vision Simulator
https://chrome.google.com/webstore/detail/nocoffee/jjeeggmbnhckmgdhdmgdckebjbdhl?hl=en-US
Disaggregate Data to Highlight Equity

- Protect learner privacy in public reports
- Consider intersectional identities
- Use asset-based language

Source: Oregon Higher Education Coordinator Commission
Provide Context to Add Meaning

- Help users make meaning of the data by adding contextual information, such as:
  - Historical/longitudinal data
  - Performance of all learners in the state
  - Progress toward meeting statewide goals
  - Labor market data

Include comparative data for non-CTE students

Source: Fleck Education
Enable Interactivity and Customization for Key Audiences

- Reach out to stakeholders to ensure reporting tools are addressing their most common questions
- Allow users to filter by location, program and population
- Develop dynamic and interactive dashboards through pivot tables, spreadsheets or proprietary services
Help Users Interpret Data and Take Action

- Use captions, popout boxes or tooltips to help users understand key takeaways
- Direct users to appropriate actions (signing up for a CTE program, accessing more detailed data, participating in CTE Month, etc.)
A Nebraska Story

Dr. Katie Graham
State CTE Director
Nebraska Department of Education
“…If the quality of life is to be improved in this modern world, its citizens must understand how to make sense out of numbers.”

David A. Kenny
Statistics for the Social and Behavioral Sciences
Why Stories?
Design Principles

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Instead of leading with the numbers, we use the numbers to support the story.
Initial Framing

- What’s the Story?
- Why?
- To Whom?
Messages that Resonate

Real Options for College and Rewarding Careers

CTE Delivers for Students

Real High School Experience with More Value

Real-World Skills
CTE STUDENTS GRADUATE FROM HIGH SCHOOL AT HIGHER RATES THAN OTHER STUDENTS

99% of Nebraska CTE concentrators graduated regardless of race, ethnicity, or gender.

CTE students do NOT drop out of high school.

CTE STUDENTS ARE HIGH ACHIEVERS

Over 3/4 of CTE concentrators passed statewide assessments in English Language Arts.

92% of CTE concentrators passed technical skill assessments aligned with industry-recognized standards.

CTE students took honors and AP courses at higher rates than non-CTE students.

CTE INSTRUCTION IS AN ESSENTIAL PART OF THE DAILY CURRICULUM FOR ALL STUDENTS

CTE courses were offered in every public high school in the state.

On average, students took 5.5 CTE classes before graduation.

Over 22,000 students in Nebraska gained leadership skills by participating in a Career & Technical Student Organization.

The ethnicities of CTE students reflected the state's overall ethnic makeup.

Prepared Students. Great futures.
Career Technical Education (CTE) gives learners the opportunity to explore careers and acquire real-world skills while learning the academic content they need for their future. It also provides employers a skilled workforce to meet the demand for job openings, helping businesses and communities thrive.

Many learners in our state participate in CTE.

- 49% of high school seniors are CTE concentrators*
- 32% of postsecondary learners are CTE concentrators*

CTE helps middle and high school learners explore careers and gain real-world experience.

- 700+ CTE programs are offered in 16 Career Clusters* across the state
- 51% of graduating CTE concentrators participated in work-based learning including job shadowing, internships, apprenticeships and workplace readiness activities
- 36% of graduating CTE concentrators were members of a Career Technical Student Organization participating in extracurricular activities related to their CTE program and learning leadership skills

See website.org for more details about available CTE programs, work-based learning and Career Technical Student Organizations.

CTE also helps high school learners get an early start on college and careers.

- 3,000+ high school CTE learners completed dual credit CTE courses earning them college credit and saving time and money toward their degrees
- 1,515 credentials of value were earned by high school CTE learners in 2017–18 demonstrating their job readiness and helping them stand out in the job market

All data are from the 2018–19 school year unless otherwise noted.
About Internal Reports...
### Nebraska Department of Education
Career Education - District Performance Report

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Data extracted on 1/26/2021. All figures are reported as percentages. *D* = Did Not Report, *N* = No Participants or No Concentrators.

#### Perkins Core Indicators (Secondary)

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Focus on Disaggregation

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@CTEWorks
Focus on Support

Perkins V: What's New with CTE Accountability Indicators

Performance Targets

Detailed indicator definitions can be found on the CTE Data & Research website.

“Progress not Perfection”

What’s the story that needs to be told?
Q&A

Have a question? Drop it in the Q&A box.
Thank You!

Austin Estes
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@austin_estes

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Katie.Graham@nebraska.gov
@NECareerEd

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