MESSAGING MATTERS:

Designing Communications Tools to Support Career and Technical Education Data Use

By Katie Graham & Steven Klein

We are bombarded with digital information. Wireless high-speed internet and smartphone technology deliver unrelenting, 24/7 access to real-time news and data, packaged in webpages, cell phone apps, streaming video and social media. Capturing and holding people's attention is now a function of production value, with those providers able to communicate electronic information in a crisp, dynamic and intuitive way more likely to attract and retain viewers.

State and local career and technical education (CTE) administrators understand the benefit that well-designed programs offer students, and frequently have the data to prove it. Unfortunately, state data analysts and educators are, understandably, not trained in marketing and communications principles, nor do they have sufficient time or resources to package this information. Thus, their efforts to publicize CTE performance metrics, when they occur, often result in text-heavy publications — loaded with technical jargon and incomprehensible statistics. Weak competition for funny cat videos.

Sharing CTE data effectively requires a shift from academic report-writing to factual storytelling to delivering intellectual entertainment packaged in concise, easy-to-understand formats tailored to users' needs.

The question of how to better engage users came to the fore in Nebraska. Existing state practice had been to post statewide performance data on the career education page of the Nebraska Department of Education's website, with student and program outcomes organized around a set of performance indicators mandated by federal legislation. Over time and by accretion, the state's CTE website expanded to offer a robust selection of statistical tables and reports: meaningful to state and local CTE administrators (when they could find them), but difficult to understand for many educators and the public.

Supported by a technical assistance grant provided by the U.S. Department of Education's Office of Career, Technical and Adult Education in the spring of 2016, Nebraska state education administrators began collaborating with researchers at RTI International to rethink the state's data messaging strategy. Over a six-month period, working with RTI, the Nebraska Department of Education fundamentally changed its communications strategy. While the work continues (and likely will never end) there has been a shift in the mentality of broadcasting data to one of user engagement.

User-centric Design

Creating an effective system for communicating CTE data entailed shifting the state mindset. An objective, third-party critique of Nebraska's accountability website, packed with years of reports, tables and statistics — many of them outdated — led officials to question its complicated structure, and to revise how CTE program descriptions and performance statistics are communicated.

More is not better, and data dumping is not the same as informing. While communicating information requires messaging to someone, upon reflection, administrators realized that person was themselves. This was manifested in the use of technical jargon, such as "CTE concentrators" and "programs of study," meaningful to CTE insiders, but unintelligible to the average site visitor. And while the team was well-versed in statistics, it became clear that the volume and data displayed in tables, charts and figures could easily overwhelm less quantitative users. Deliberate focus on identifying the needs and preferences of specific users became an immediate priority, and one that the RTI team was prepared to help Nebraska address.

Organize Information to Support Access

To empower users in finding information, a comprehensive restructuring of Nebraska's website content was initiated using the following design principles.

Build to user needs.
The audience for Nebraska's CTE data is wide and varied. To help tailor navigation, state administrators conducted research to better understand who visited the accountability website and the information they sought. This included examining site analytics to identify traffic flows; reviewing legislative, media and public information requests to assess data needs; soliciting feedback from various stakeholders on the perceived utility of the data currently available; and conducting outreach at state educational events, such as the annual convening of the Nebraska Association for Career and Technical Education, to better understand the types of information teachers and administrators need to improve their programs. This information was then used to cull unnecessary data and highlight findings and research identified as most useful to a diverse audience.

Make it easy to find.
To simplify website navigation, menu items were consolidated into related themes rather than listing them alphabetically, as previously organized. For example, knowing that educators often visit the site to learn about ways in which to interpret their data, a Data Analysis sidebar was created and prominently displayed. Several additional resources, including related internal websites, data submission FAQs and a CTE definitions page were added as high-level menu options. The Nebraska career education homepage also was redesigned to feature state goals, as well
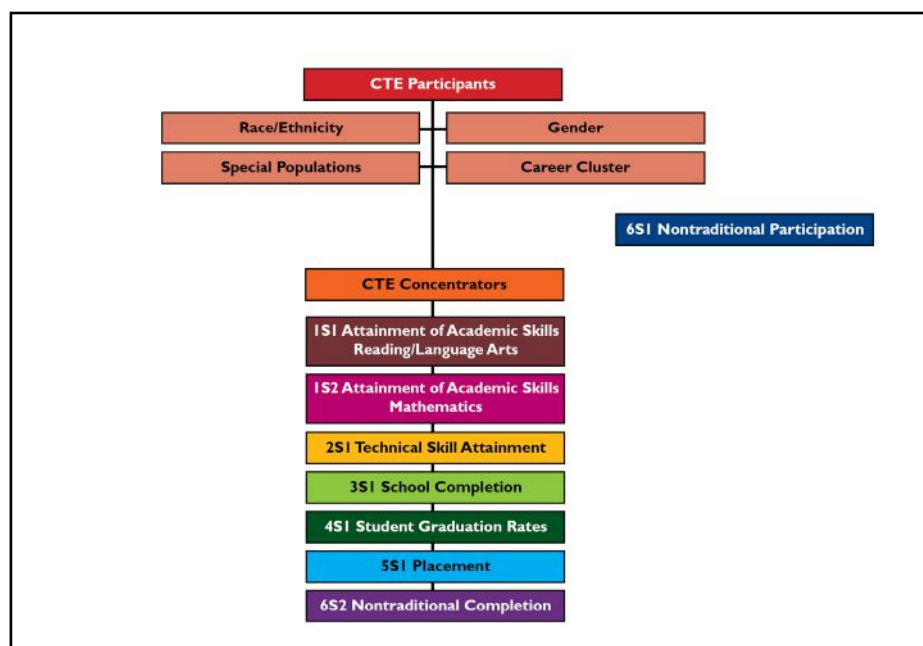

FIGURE 1: Nebraska's Perkins Performance Indicator Framework

> **"Sharing CTE data effectively requires shifting from academic report-writing to factual storytelling to delivering intellectual entertainment packaged in concise, easy-to-understand formats tailored to users' needs."**

as landing text within pages to help users find information with fewer clicks.

Make it easy to understand.

Those immersed in the day-to-day administration of CTE programming understand its technical intricacies. To help individuals who lack such understanding, the Nebraska Department of Education created the career education data and research website to help users interpret CTE data. The site is structured to minimize jargon, clarify terminology, highlight important dates and deadlines and define key terms. An explanation of the state's performance indicator framework used to assess student performance was provided, along with a longitudinal view of our state's annual performance goals. The page also features simple sidebar menus that direct viewers to strategies for conducting data collection and analysis, approaches for maximizing responses on CTE graduate follow-up surveys, and local and national research and news on CTE.

Declutter.

Over time the website has grown to incorporate a vast storehouse of content. Although conscientious about adding information to keep users informed, state administrators were less aggressive about policing information already posted.

With assistance from RTI, a systematic review of the site was performed to cull outdated reports and trend data, some dating back more than a decade, to remove materials no longer relevant to contemporary users. State staff continue to conduct periodic reviews that assess the usefulness of postings, removing those whose shelf-life has expired.

Deliver Content in Engaging Formats

Site visitors shouldn't have to work to understand information. While tabular displays can be used to share a substantial amount of data, a review of site content uncovered a storehouse of numbers and percentages that didn't always succeed in messaging what was intended. To improve communications, the approach shifted: from broadcasting data to delivering insights.

In lieu of asking users to work to interpret the data, the Nebraska Department of Education now seeks to engage users by providing context for the data presented. This includes offering brief descriptions of the information displayed, along with key takeaways to help them find meaning in the data.

Put a face on the findings.

Ultimately, statistics are about people. As part of its technical assistance expe-

rience, RTI researchers offered strategies for putting a human face on analytical outcomes. Although there is much work yet to be done, state CTE administrators are exploring how to juxtapose statistics with photos and connect numbers to students. This approach to graphical storytelling can help users interpret statistics, as well as tell their own stories with the data.

Lead with the headline.

While committed to providing users with data, the state is experimenting with strategies to better communicate the benefits of CTE programming. For example, when providing data on women participating in coursework nontraditional for their gender, it is more effective to lead with the takeaway (i.e., an interpretation of the data presented). While these insights do not preclude the display of data in tables, charts or figures, it can help to make complicated data more accessible, as well as to help users find additional meaning in the data.

Provide for deeper meaning.

Pictures, infographics and data illustrations must be based on valid and reliable statistics. For this reason, the Nebraska Department of Education continues to provide users with access to detailed data, often in tabular formats disaggre-
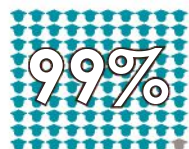
NEBRASKA CAREER EDUCATION
2016-2017 AT-A-GLANCE

NCE · NEBRASKA DEPARTMENT OF EDUCATION

SECONDARY

COMPLETER WITH DIPLOMA
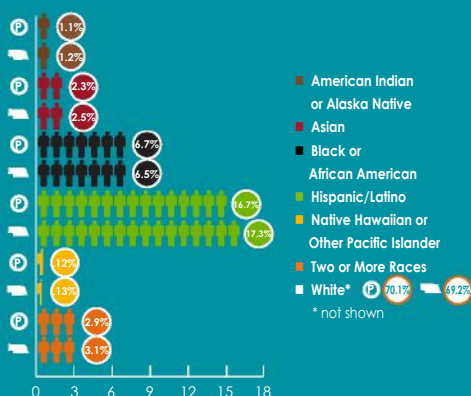All High School Seniors vs. Concentrators

89%
The Nebraska graduation rate for the 2015 cohort

99%
The Nebraska graduation rate for CTE Concentrators

ETHNICITY
Participants vs. All Students Grades 7-12

- **P** 1.1%
- 1.2%
- **P** 2.3%
- 2.5%
- **P** 6.7%
- 6.5%
- **P** 16.7%
- 17.3%
- **P** 12%
- 13%
- **P** 2.9%
- 3.1%

Legend:
- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic/Latino
- Native Hawaiian or Other Pacific Islander
- Two or More Races
- White* **P** 70.1% / 69.2%
  * not shown

Axis: 0 3 6 9 12 15 18

💡 The ethnicities of Career Education students nearly reflect the state's overall ethnic makeup.

🖥️ **All High School Seniors -OR- All Students Grades 7-12**

💡 **Insights**

P **Secondary Participants**
A student in grades 7-12 who has earned credit in at least one CTE course during the school year

C **Secondary Concentrators**
A stud... has e... seme... single career cluster

CTE STUDENTS
Participants and Concentrators

98,601
Nebraska students Grades 7-12 are CTE Participants

11,350
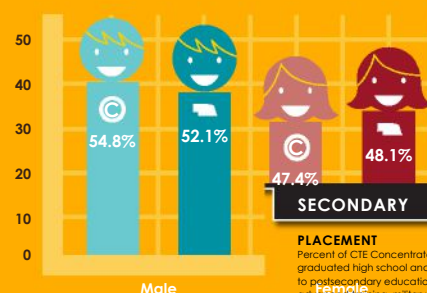Nebraska High School Seniors are CTE Concentrators

💡 72% of Nebraska's students grades 7-12 participate in Career and Technical Education
49% of Nebraska's seniors are CTE Concentrators

GENDER
Concentrators vs. All High School Seniors

Bar chart (axis 0–50):
- Male: 54.8% (C), 52.1%
- Female: 47.4% (C), 48.1%

💡 The gender gap for those concentrating in Career Education narrowed between the 2014-2015 and 2015-2016 school years. However, females are still underrepresented in Career Education as a whole.

91.81%

SECONDARY

PLACEMENT
Percent of CTE Concentrators who graduated high school and went on to postsecondary education or advanced training, military service, or employment

98%

💡 70% of CTE Concentrators transition into some form of postsecondary education after graduating from high school.

SPECIFIC PLACEMENT

45%	25%	9%	2%
4 Year College	2 Year College	Employment	Military

TECHNICAL SKILL

PROGRAMS OF STUDY
School Districts offering at least one State Model Program of Study, by career field

Concentrators who passed... assessm... with... recogni...

💡 The primary purpose of a Program of Study is to provide successful student transitions between secondary and postsecondary education. All but 5 of Nebraska's school districts offer at least one State Model Program of Study.

- Agriculture, Food & Natural Resources: 167
- Business, Marketing, & Management: 236
- Communication & Information Systems: 110
- Health Sciences: 34
- Human Services & Education (Including FACS): 101
- Skilled & Technical Sciences: 157

245 Total School Districts in Nebraska

POSTSECONDARY

90.8%

CTE STUDENTS
Participants and Concentrators

P **36,111** CTE Participants

C **18,522** CTE Concentrators

TECHNICAL SKILL ATTAINMENT
The percentage of CTE Concentrators who met technical skills attainment aligned with industry-recognized standards

83.2%

STUDENT RETENTION OR TRANSFER
The percentage of CTE Concentrators who did not graduate in the reporting year, but remained enrolled in postsecondary education either at their original postsecondary institution or transferred to another 2- or 4- year institution

P **Postsecondary Participants**
A postsecondary student who has earned one or more credits in a 1.5 or 2.0 weighted course in any CTE program area.

C **Secondary Concentrators**
A postsecondary student who:
(1) has earned at least 12 academic semester credits (18 quarter credits) within a single CTE program, **OR**,
(2) completed a short-term CTE program of less than 12 semester credits (18 quarter credits),
that ultimately results in an award of an industry-recognized credential, certificate, diploma, or degree.

💡 **Insights**

FIGURE 2: 2016–2017 Nebraska Career Education Data At-A-Glance

> **"The goal is to offer users customized information, ranging from high-level summative metrics for those seeking to learn more about Nebraska CTE offerings, to more sophisticated analytic displays designed for those wishing to drill deeper into the data for program improvement."**

gated by individual CTE characteristics. For example, users may access data that includes the percentage of CTE concentrators within an individual district that met Nebraska's statewide performance target for a particular accountability metric, and then also see those same data disaggregated by career cluster.

Similarly, users may access counts of the total number of CTE participants and concentrators within a given education service unit or Perkins consortium, disaggregated by race/ethnicity and career field. The goal is to offer users customized information, ranging from high-level summative metrics for those seeking to learn more about Nebraska CTE offerings, to more sophisticated analytic displays designed for those wishing to drill deeper into the data for program improvement.

Provide communications tools.
To illustrate CTE's instructional benefits, administrators introduced eye-catching graphics — data rip sheets — featuring program highlights and performance outcomes. Prominently displayed on landing pages, these documents showcase key statistics of interest to a wide audience. The combination of statistics and figures has helped to make data more accessible and improved the messaging of high-level takeaways that might otherwise be missed.

For example, an At-A-Glance data page provides users with key statistics on Nebraska career education. To highlight key findings, state administrators added insights, set off with light bulbs, to ensure readers understand key takeaways. Documents are formatted so that they may be easily downloaded and, if desired, color printed for hard-copy distribution. These documents are useful and effective in attracting and holding users' attention.

This new communications strategy draws on contemporary marketing and communications principles used by private sector firms. While the Nebraska Department of Education is not in the business of selling products, education is a business in which the public invests. As such, there is a need to tell a compelling story of the benefits that well-designed CTE programs offer students. Equally important is the need to share data that educators can use to improve programming. For these data to be useful, however, they must be understandable.

While still in the early stages of incorporating all that has been learned, the Nebraska Department of Education has made strides in changing how it messages information in the digital age. This is evidenced in the state's new approach to communicating data, and in a website that is intuitive for first-time visitors as well as those lacking background in CTE accountability systems. At the same time, data displays are structured to allow those with more advanced knowledge to quickly navigate the site to find the information they seek. ∎

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