IDC Interactive Institutes 2018
Building a Culture of High-Quality Part B Data

Developing Data Literacy

Orlando, FL – February 21-22, 2018

Beth Miller Harrison, *IDEA* Data Center
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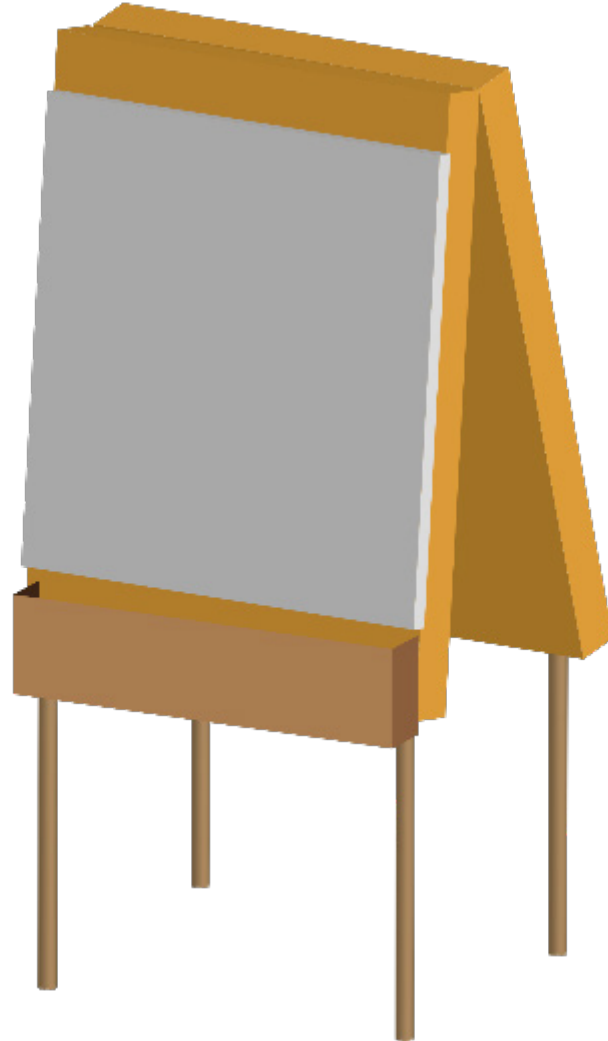# Austin, TX – March 7-8, 2018

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This Morning's Goals

- Define data literacy

- Identify data literacy partners

- Tell a data story

- Show how the *IDEA Data Center Part B Data System Framework* can be used to cultivate data literacy
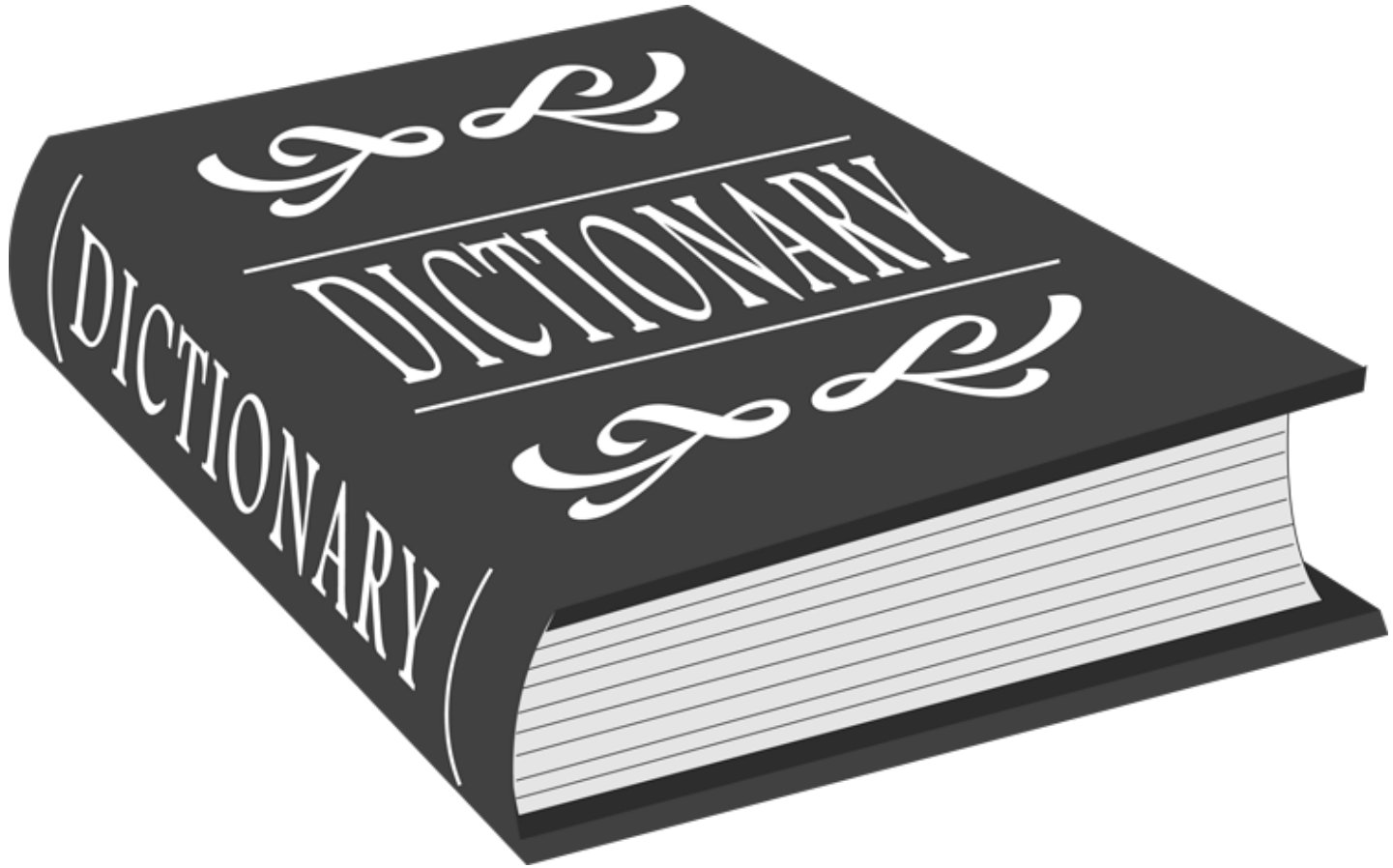
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What Is Literacy?

What Are Some Types of Literacy?

How Might We Define Data Literacy?

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A Data-Scientific View—What Is Data Literacy?

"... understanding what data mean, including how to read graphs and charts appropriately, draw correct conclusions from data, and recognize when data are being used in misleading or inappropriate ways."

A data-scientific view   (4) *Carlson, J. R.; Fosmire, M.; Miller, C.; Sapp Nelson, M. (2011). "Determining Data Information Literacy Needs: A Study of Students and Research Faculty". Libraries Faculty and Staff Scholarship and Research. 23.*

A Population-Focused Education View—What Is Data Literacy?

"... the knowledge of what data are, how they are collected, analyzed, visualized and shared, and is the understanding of how data are applied for benefit or detriment, within the cultural context of security and privacy."

Crusoe, D. (November 2016). "Data Literacy defined pro populo: To read this article, please provide a little information". *The Journal of Community Informatics*. **3**.
http://ci-journal.net/index.php/ciej/article/viewFile/1290/1226
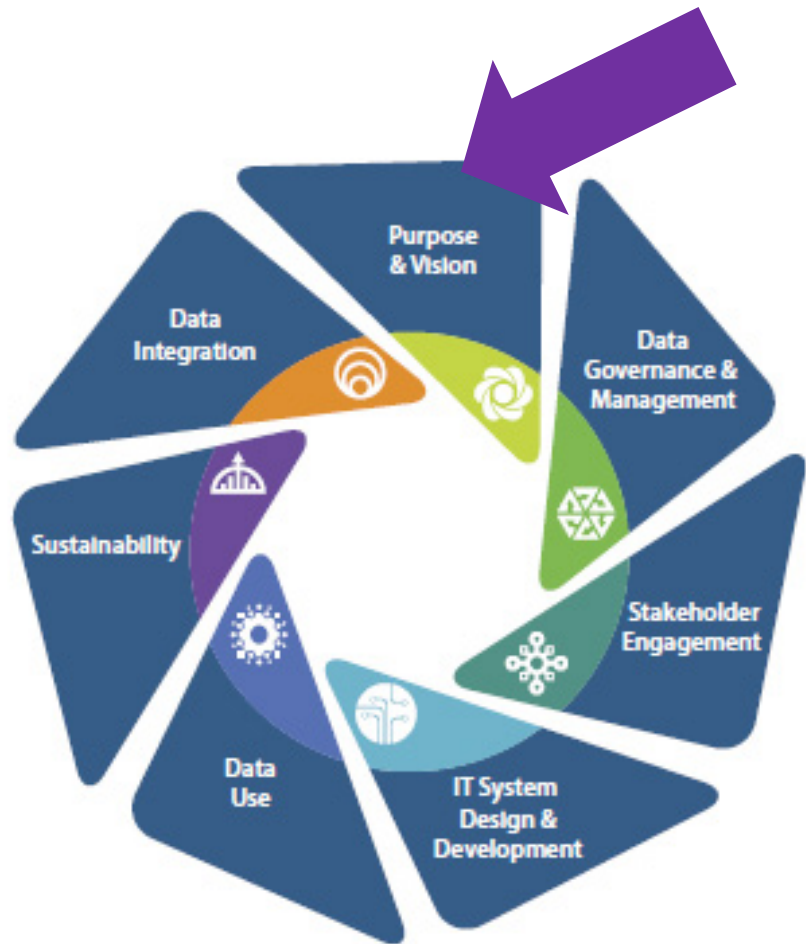
The *IDEA* Data Center Part B Data System Framework

Building Data Literacy Skills With the Part B Data System Framework

Skill

- Knowing what data are appropriate to use for a particular purpose

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Example: Corresponding Framework Component

Indicator	**Quality Indicator PV2:** The purpose and vision include the state IDEA program's intents and goals for the state's Part B data system.
Elements of Quality	a. The purpose and vision of the state's **Part B data system** guide decision-making about who uses the system, what general kinds of data to include (e.g., fiscal, workforce, outcomes), and how the data are used.

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Building Data Literacy Skills With the Part B Data System Framework

Skill

- Recognizing when data are being misrepresented or used misleadingly

Example: Corresponding Framework Component

Indicator	**Quality Indicator DG4:** Data governance policies require the development and implementation of procedures to ensure the quality of data collected from state/local programs and agencies.
Elements of Quality	a. State data governance policies require that data included in the state's Part B data system are aligned with the purpose of the system.

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Building Data Literacy Skills With the Part B Data System Framework

Skill

- Understanding data analytics tools and methods and when and where to use them
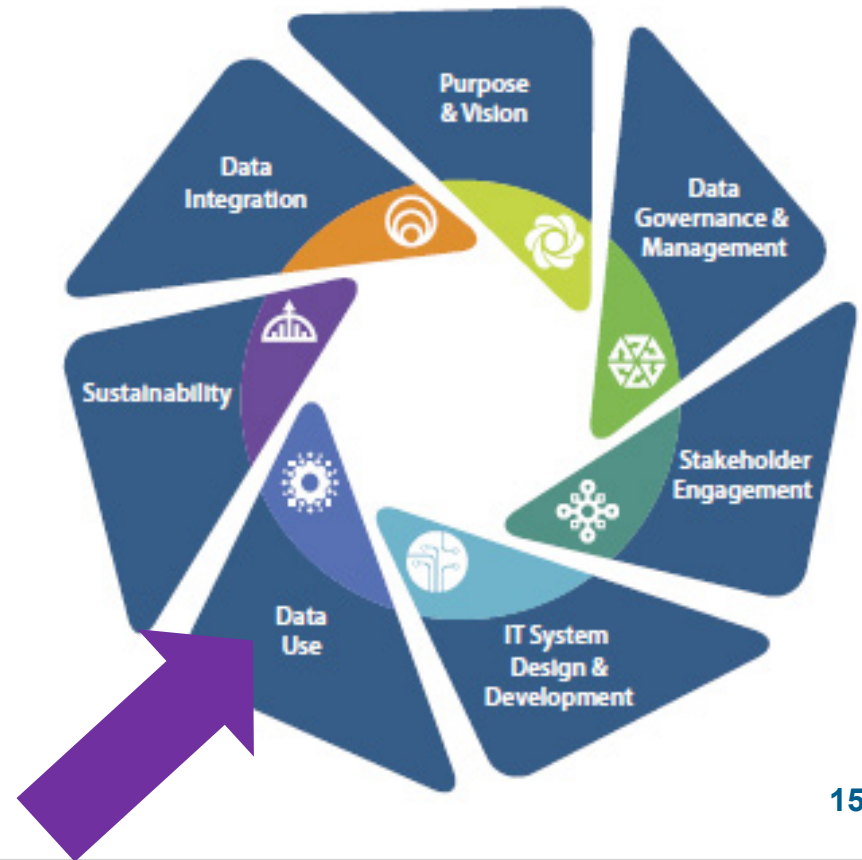
Example: Corresponding Framework Component

Section 3: Using Data and Promoting Capacity for Data Use

Indicator	**Quality Indicator DU5:** Part B state staff use data to inform decisions and provide support to local staff to do the same.
Elements of Quality	a. Part B state staff conduct subgroup analysis (e.g., geographic locality, race/ethnicity, disability type, age, gender, or other criteria) as appropriate when interpreting the data. b. Part B state staff systematically review the findings of data analyses, interpret the findings, and make decisions based on the data.

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Building Data Literacy Skills With the Part B Data System Framework

Skills

- Thinking critically about information yielded by data analysis
- Interpreting data visualizations

Example: Corresponding Framework Component

Section 3: Using Data and Promoting Capacity for Data Use

Indicator	Quality Indicator DU5: Part B state staff use data to inform decisions and provide support to local staff to do the same.
Elements of Quality	a. Part B state staff conduct subgroup analysis (e.g., geographic locality, race/ethnicity, disability type, age, gender, or other criteria) as appropriate when interpreting the data. b. Part B state staff systematically review the findings of data analyses, interpret the findings, and make decisions based on the data. c. Part B local staff systematically review the findings of data analyses, interpret the findings, and make decisions based on the data.

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Data Literacy Partners

Who Are Our Data Literacy Partners and What Are Their Roles?

Who must we enlist to

• Collect the data

• Analyze the data

• Report the data

• Tell the data story

How and When Will We Communicate With Our Partners?

- What information should be shared?
- Who will share it?
- How will it be shared?
- How often will it be shared?
- How do we ensure clear lines of communication?
  - Cross role professional development?

Building Data Literacy Skills With the Part B Data System Framework

Skill

- Communicating information about data to different audiences— sometimes referred to as data storytelling

Importance of Telling the Data's Story

"The shortest distance between truth and a human being is a story. "

-Anthony de Mello, One Minute Wisdom

"When data and stories are used together, they resonate with audiences on both intellectual and emotional levels."

-Jennifer L. Aaker, Stanford University Professor of Marketing

What Is a Story?

Stories are used to explain and illustrate abstract ideas or concepts in a way that makes them accessible and attainable.

- Characters

- Believable challenge

- Hurdles to overcome

- Clear outcome or prognosis

Steps to Telling a Data Story

- Find the compelling narrative

- Think about your audience

- Be objective and offer balance

- Don't censor

- Edit, edit, edit

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Education by Employment
Cross-Tab Table for Kentucky

KENTUCKY - 2012 YOYO (2010-2011 school leavers)				
	Competitive Employment	Other Employment	Not Employed	Education Totals ⇩
Higher Ed	254 (9.3%)	107 (3.9%)	180 (6.6%)	541 (19.7%)
Other Ed	111 (4.0%)	43 (1.6%)	74 (2.7%)	228 (8.3%)
Not in School/Training	916 (33.4%)	354 (12.9%)	706 (25.7%)	1976 (72.0%)
Employment Totals ⇨	1281 (46.7%)	504 (18.4%)	960 (35.0%)	2745 (100.0%)

Engagement Categories by Disability: Kentucky

(Respondents can be in more than one engagement category)

Specific Learning Disab.
Emotional Behavioral Disab.
Mild Mental Disab.
Functional Mental Disab.

2013 YOYO-Sample for this question:
(Kentucky-total respondents n=2623)

Ky SLD n=655
Ky EBD n=200
Ky MMD n=660
Ky FMD n=148

	Higher Ed	Competitively Employed	Other Ed	Other Employed	Not Ed or Employed
Specific Learning Disab.	27%	64%	7%	15%	13%
Emotional Behavioral Disab.	13%	44%	10%	15%	34%
Mild Mental Disab.	10%	39%	6%	18%	36%
Functional Mental Disab.	1%	9%	9%	20%	65%
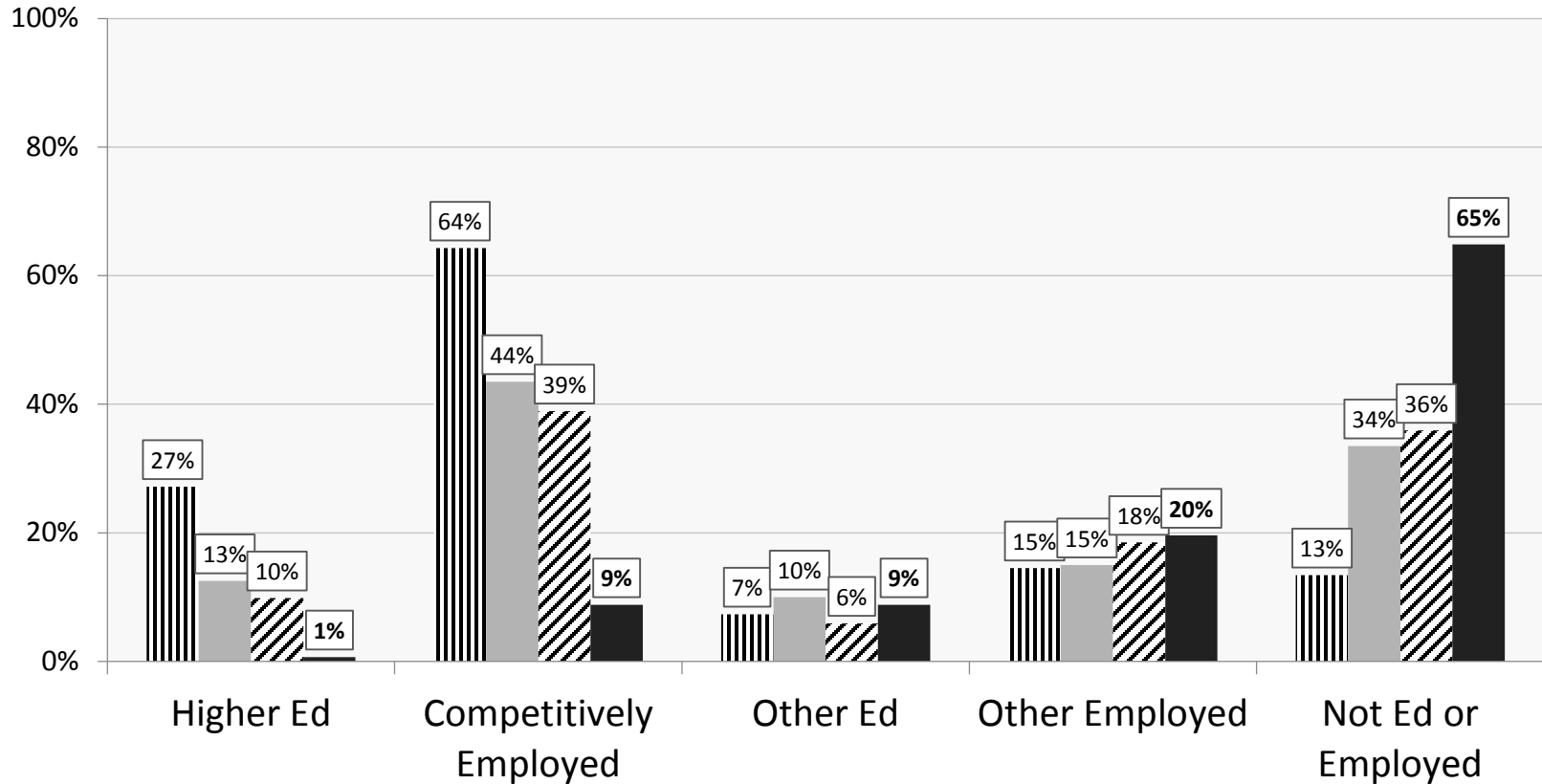
Telling the Data Story

What is the compelling narrative from the data?

Students with significant cognitive disabilities have the poorest post-school outcomes with 66% neither employed or enrolled in school one year after high school exit.

Who needs to know this or who will our audience be?

Does this include a wide range of stakeholders: parents, teachers, superintendents, advocacy groups, state legislature?
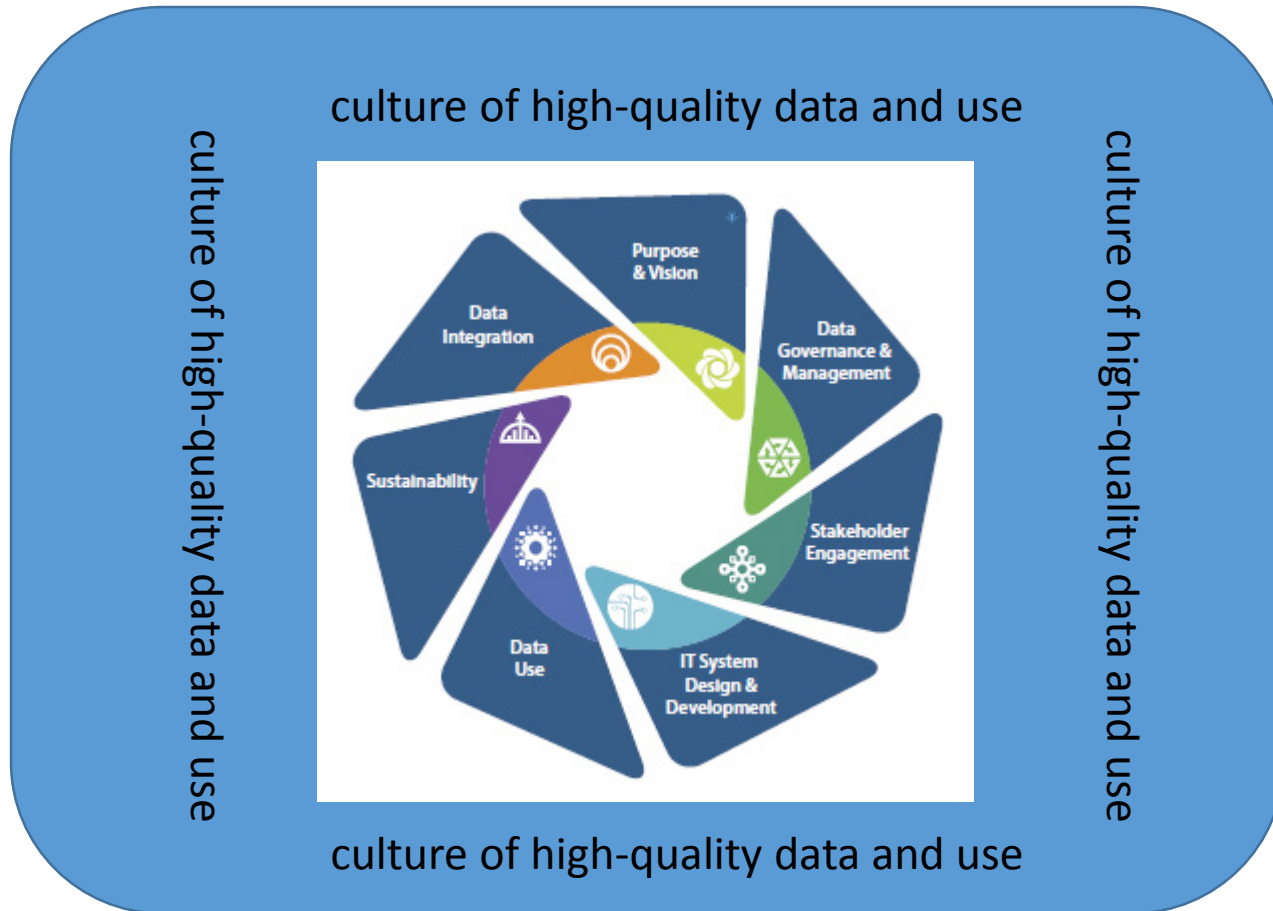
How can we tell this story/share this information with that audience?

Think about the best way to connect with the particular group.

Students with ID Experience Least Successful Post-School Outcomes
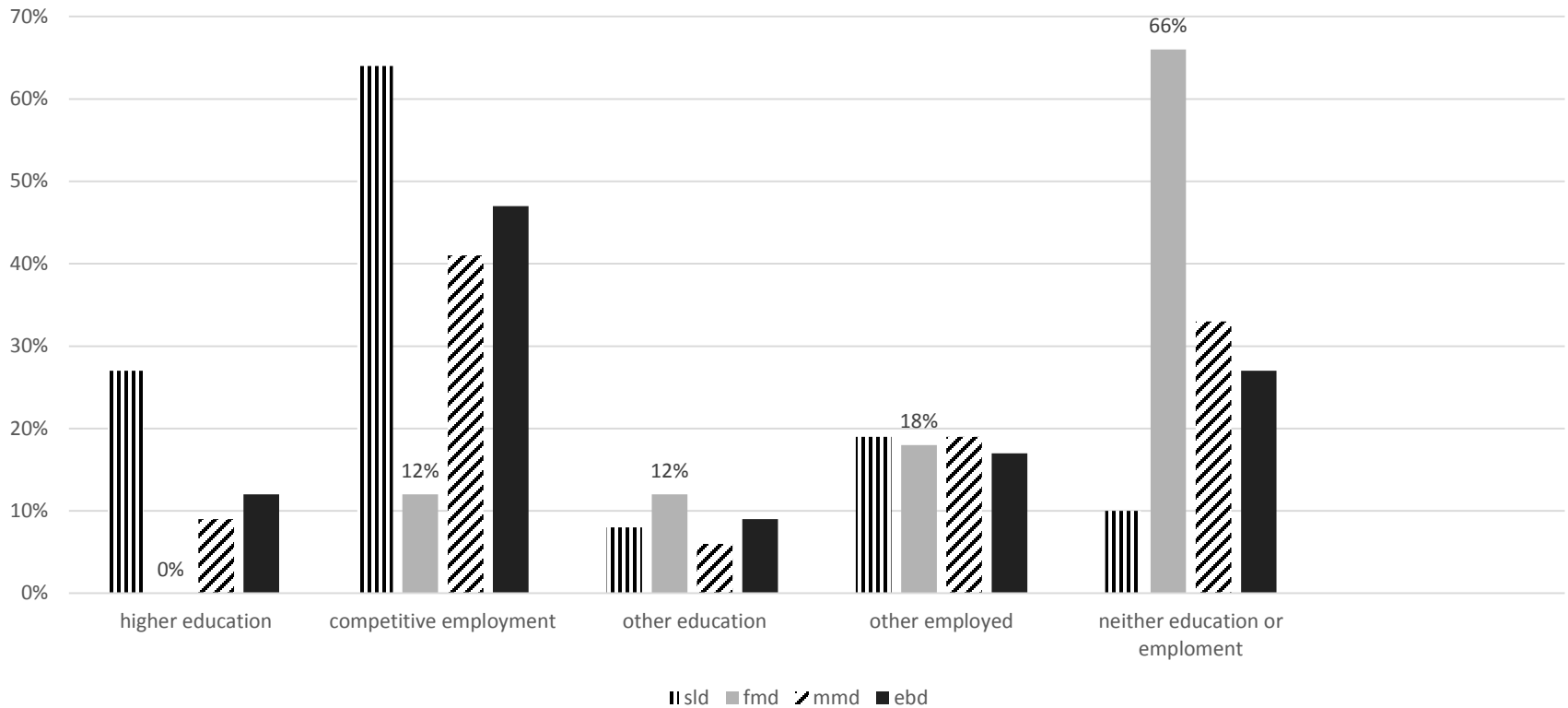
What Interests You Most?

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For More Information

Visit the IDC website
http://ideadata.org/

Follow us on Twitter
https://twitter.com/ideadatacenter

Follow us on LinkedIn
http://www.linkedin.com/company/idea-data-center

Resources

IDEA Data Center Part B Data System Framework

https://ideadata.org/sites/default/files/media/documents/2017-09/49903_idc_part-b_framework_508.pdf

Narrative Visualization: Telling Stories with Data; Edward Segel, Jeffrey Heer
IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis), 2010

This presentation was supported by a grant from the U.S. Department of Education, #H373Y130002. However, the contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the federal government.

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