

INTERACTIVE INSTITUTE 2021

BUILDING AND SUSTAINING A CULTURE OF HIGH-QUALITY DATA

Building Blocks of a Data-Driven Culture

April 13–15, 2021







Presenters

Tony Ruggiero, IDEA Data Center
Kim Schroeder, IDEA Data Center
Theresa Nicholls, Tennessee Department of Education
Zelphine Smith-Dixon, Georgia Department of Education

Agenda

- Data literacy
- Data-driven culture
- Five Building Blocks of a Data-Driven Culture
- Data Literacy Continuum
- Data exploration
- Let's hear from the states
- IDC's Data Meeting Toolkit

Data Literacy



Definitions

Data literacy: The ability to read, work with, analyze, and argue with data

Source: D'Ignazio, C., and Bhargava, R. (2016). Databasic: Tools and Activities for Data Literacy Learners. *Journal of Community Informatics*, 12. Retrieved from http://ci-journal.net/index.php/ciej.

Definitions (cont.)

Data literacy gap: data users have a cross-functional range of skills—some very technical and analytical—and others do not. Collectively, they have trouble finding a shared understanding of what the data are and how to use them effectively

Source: Data Science Central. (2017). *Data literacy: Bridging the gap.* Retrieved from https://www.datasciencecentral.com/video/data-literacy-bridging-the-gap.

Definitions (cont.)

Data democratization: Everyone has access to data and there are no barriers, human or technical, that create a bottleneck at the gateway to accessing them

Source: Marr, B. (2017, July 24). What Is Data Democratization? A Super Simple Explanation and the Key Pros and Cons. Retrieved from https://www.forbes.com/sites/bernardmarr/2017/07/24/what-is-data-democratization-a-super-simple-explanation-and-the-key-pros-and-cons/?sh=52242f5a6013.

Data Driven-Culture



What Is Data-Driven Culture?

- "A data-driven culture is a workplace environment that employs a consistent, repeatable approach to tactical and strategic decision-making through emphatic and empirical data proof."
- Put simply, an organization that has a data-driven culture bases decisions on data, not gut instinct or anecdotal information

Source: Ramaswamy, P. (2015). *How to Create a Data Culture*. Retrieved from https://www.cognizant.com/InsightsWhitepapers/how-to-create-a-data-culture-codex1408.pdf.

What Is Data-Driven?

"To be data-driven requires an overarching data culture that couples a number of elements, including high-quality data, broad access and data literacy[,] and appropriate data-driven decision-making processes."

Source: Anderson, C. & Li, M. (2017). *Five Building Blocks of a Data-Driven Culture*. Retrieved from https://techcrunch.com/2017/06/23/five-building-blocks-of-a-data-driven-culture/.

Five Building Blocks of Data-Driven Culture

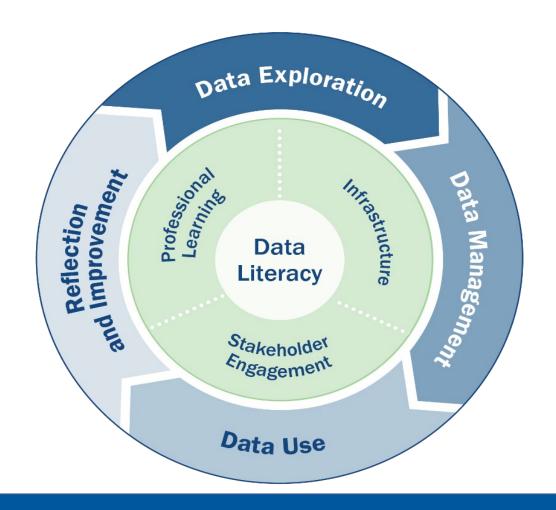


Five Building Blocks of Data-Driven Culture

- Single source of truth
- Data dictionary
- Broad data access
- Data literacy
- Decisionmaking

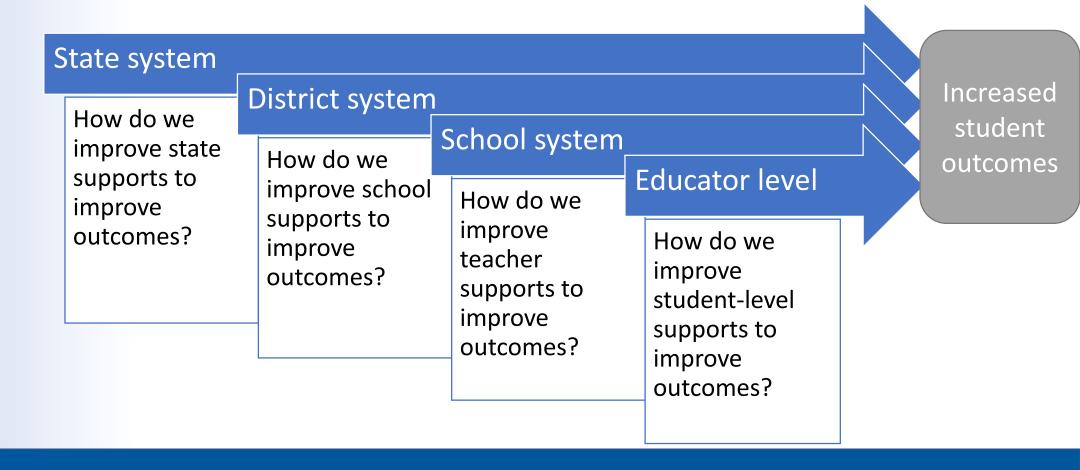
Source: Data Science Central. (2017). *Data Literacy: Bridging the Gap.* Retrieved from https://www.datasciencecentral.com/video/data-literacy-bridging-the-gap.

Data Literacy Continuum: Essential Elements





Data Literacy Continuum: At ALL Levels of the System





Data Literacy Continuum: Essential Elements





Data management



Data use



Reflection and improvement

What?

- Purpose and vision (set the path)
- Research questions (what do we want/need to know)

Considerations

- Who are the affected stakeholders?
- Establishing buy-in prior to moving forward

What?

- Data definitions
- Data selection
- Data collection/access
- Data submission
- Data fidelity
- Data management system/storage

Considerations

 Costs, time, feasibility, burden on stakeholders

What?

- Data analysis
- Data use/data-based decisionmaking
- Data sharing and reporting

Considerations

- Balance of use...systems improvement, instructional decision making, reporting
- Use depends on role

What?

- Efficiency and effectiveness of data literacy
- Data integration
- Sustainability at data use/management
- Scaling processes
- Improving fidelity

Considerations

- How to improve costs, time, feasibility, data system, burden on stakeholders for data use?
- Did we answer our questions?

Data Exploration



Data Exploration

- Foundation of data culture is questions
 - Are states revisiting the questions that are driving their data collection/analysis?
- Reactive versus proactive
- Considerations of data quality and context

Let's Hear From the States: Tennessee



Theory of Action

If we

 empower districts by providing access to accurate data and offering trainings and resources to understand, analyze, and effectively use their own data

And LEAs

• own, understand and use their data in a meaningful way

Then

systems and practices that benefit SWDs will improve

Data-Driven Mindset

SEA

- Why do we collect data?
- What do we do with data?
- How do we talk about data?

LEA

- Data-driven processes
- Root cause analysis
- Formative and summative metrics

Let's Hear From the States: Georgia



Embracing a Culture of Data

- Leverage the culture of data to tell OUR story
- Use data to change the end of the story, challenge thinking for the means to the end, and agree on the past without blame
- Create critical connections among data sets and stakeholders
- Mitigate barriers to use and share data
- Facilitate intentional processes to empower leaders for change
- Unpack student backpacks to determine the real impact

IDC's Data Meeting Toolkit





References

Anderson, C., and Li, M. (2017). *Five Building Blocks of a Data-Driven Culture*. Retrieved from https://techcrunch.com/2017/06/23/five-building-blocks-of-a-data-driven-culture/.

Data Science Central. (2017). *Data Literacy: Bridging the Gap.* Retrieved from https://www.datasciencecentral.com/video/data-literacy-bridging-the-gap.

D'Ignazio, C., and Bhargava, R. (2016). Databasic: Tools and Activities for Data Literacy Learners. *Journal of Community Informatics*, 12. Retrieved from http://ci-journal.net/index.php/ciej.

Marr, B. (2017, July 24). What Is Data Democratization? A Super Simple Explanation and the Key Pros and Cons. Retrieved from https://www.forbes.com/sites/bernardmarr/2017/07/24/what-is-data-democratization-a-super-simple-explanation-and-the-key-pros-and-cons/#7b7d7cc76013.

Ramaswamy, P. (2015). *How to Create a Data Culture*. Retrieved from https://www.cognizant.com/InsightsWhitepapers/how-to-create-a-data-culture-codex1408.pdf.

Contact Us

- Tony Ruggiero, tony.Ruggiero@aemcorp.com
- Kim Schroeder, <u>kimchafferschroeder@uky.edu</u>
- Theresa Nicholls, <u>Theresa.Nicholls@tn.gov</u>
- Zelphine Smith-Dixon, <u>ZSmith@doe.k12.ga.us</u>



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



The contents of this presentation were developed under a grant from the U.S. Department of Education, #H373Y190001. 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.

Project Officers: Richelle Davis and Rebecca Smith



