Using Data Visualization and Reporting to Improve Compensatory Education Programs

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SCHOOL IMPROVEMENT & DISTRICT EFFECTIVENESS

Session Description

This session will provide attendees with a conceptual framework and real-world examples for ***using data visualization and reporting to improve program implementation and outcomes***. Based upon best practices from the field and experiences from ongoing work in Atlanta Public Schools, attendees will learn the ***basics of data visualization*** (types of visualizations, characteristics of effective visualizations, and the value of using effective visualizations), ***when and how to use dashboards and scorecards***, identifying and ***using the right visualization tools***, and how best to ***collaborate with school and district data experts*** to develop and implement successful tools. The session will be beneficial to both new and experienced program managers, Title I directors, and other school- and district-level staff whose work can benefit from meaningful interaction with data.
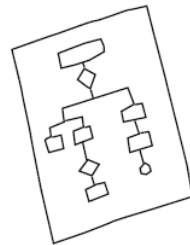
Session Outline

- Brief introduction to data visualization

- Demonstration of real-world application in compensatory education

- Q&A and group conversation

What is Data Visualization?
Why Use Data Visualization?

Data
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Data → Information → Knowledge → Wisdom

Source: Mazza (2009)

Types of Visualizations

- Programmatic Need:
  - Exploration vs. explanation
  - Informative vs. persuasive

- Design
  - Static vs. dynamic
  - Role of designer and end user
  - Bar charts, scatter plots, pie charts, etc.

Goals of Data Visualization

- Present more data than otherwise feasible

- Present data in a way that is actionable

- To support decision making

- Illustrate patterns that are not immediately obvious, identify relationships that are meaningful

- Inspire new questions and further exploration

- Build systems for monitoring

- Identify trends and outliers

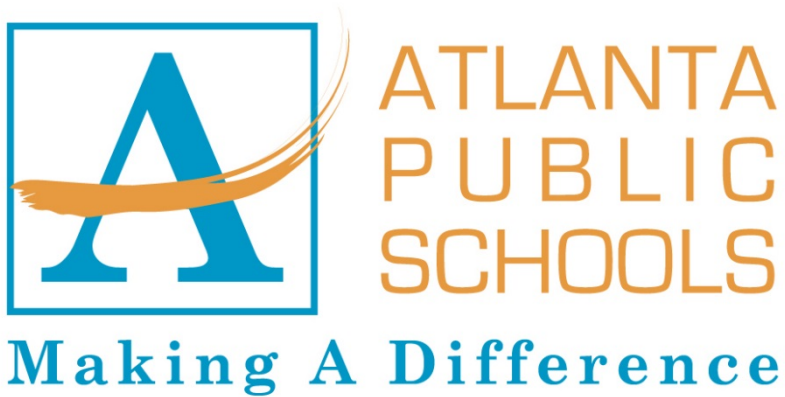- Compare values, show change over time

Questions to Consider

- Does this visualization contain too much information? Too little?

- Is the data presented in a clear and comprehensible way?

- Does each data element in the visualization add meaning? Does any feature of the visualization distract from the intended focus or meaning?

- Will this visualization support action in support of desired program outcomes?

Visualization Demonstration

Collaborating with School and District Data Experts

Richard Woods,
Georgia's School Superintendent
"Educating Georgia's Future"
gadoe.org

- Identifying key business need(s)
- Identifying the right visualization tool(s)

3/24/15

10

Q&A and Group Conversation

- What are your visualization interests and needs?

- What challenges do you face?

- What programmatic need will be addressed by utilizing data visualization?

Resources and References

- Iliinsky, N. and J. Steele (2011). *Designing Data Visualizations: Intentional Communication from Data to Display*. O'Reilly.

- Mazza, R. (2009). *Introduction to Information Visualization*. Springer.

- Stacey, M., J. Salvatore, and A. Jorgensen. (2013). *Visual Intelligence: Microsoft Tools and techniques for Visualizing Data*. Wiley.

- Telea, A. (2015). *Data Visualization: Principles and Practice*. CRC Press.

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