



Essential Components of Data Fluency

Data fluency is the ability to read, understand, analyze, and communicate about data in a way that supports informed decision-making. It means being comfortable working with data—not necessarily as a technical expert, but as someone who can confidently interpret insights, ask meaningful questions, and apply data in context.

Fluency is the ability to apply a skill or comprehend knowledge with accuracy and with automaticity in different contexts to improve outcomes.

“Data Fluency is about educators and leaders having the skills and knowledge to effectively and responsibly use data to support student learning and improve overall outcomes.”

Five Building Blocks of Building Data Fluency:

1. **Data Literacy:** The foundational ability to read, understand, analyze, and communicate about data.
 - Indicators of Success:
 - Access and review data dashboards and/or reports fluidly.
 - Identify different data types and formats.
 - Translate data (chart, table) into language contextual to the situation.
 - Accurately analyze and monitor student performance data to and make informed decisions for instructional needs.
2. **Analytical Thinking:** The capability to question, critically evaluate, and derive insights from data.
 - Indicators of Success:
 - Facilitates an Exploratory Data Analysis (EDA) exercise with Leadership Teams to interpret a data set, accurately to analyze, monitor, and evaluate progress and outcomes.
 - Ask insightful questions to identify patterns, anomalies, and trends in different data sets to accurately prioritize needs and improve outcomes.
3. **Data Manipulation:** Skills in using tools and technologies to process and manage data.
 - Indicators of Success:
 - Knows how to “clean up” the data to make the data more understandable (i.e. remove data that is irrelevant or inconsistent).
 - Use tools to transform data from one format to another (numerical to visual and vice-versa).
4. **Statistical Knowledge:** Understanding of basic statistical concepts and methodologies to interpret data accurately.
 - Indicators of Success
 - Use descriptive statistics (mean, median, mode, standard deviation) to summarize data sets.
 - Uses advanced statistics to evaluate interventions and outcomes.
5. **Data Visualization:** The art and science of presenting data in a clear and engaging manner for decision-making.
 - Indicators of Success
 - Create a short summary or data story based on analysis (2-3 takeaways and/or a visual).
 - Uses a variety of visual representations to present data in a meaningful way (knowing what visual shows the data the right way)