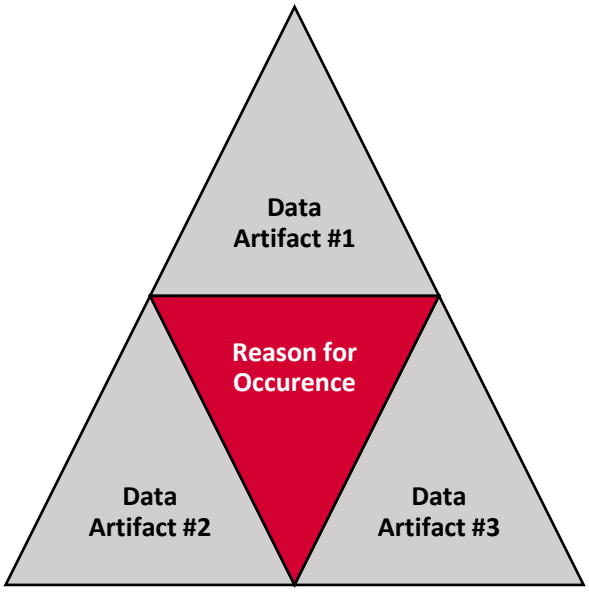
DATA TRIANGULATION OVERVIEW

Every school division collectsdata on issues from building maintenance to student achievement. However, even with all this data available, school leaders, teachers, and school staff sometimes struggle to use the data to bring meaningful, lasting changes to their schools. One of the main reasons for this struggle is that many in the division rely on one piece of data (i.e., standardized test scores), which only tells a fraction of the story. Whereas these single data sources contain valuable information, they cannot help decision-makers understand every nuance of the outcome. To combat this, those analyzing data to uncover areas of need in schools should triangulate their data to better understand the current circumstances.

What is data triangulation?

Data triangulation uses multiple pieces of data (three or more) to examine the same phenomenon (e.g., student achievement, teacher turnover, behavioral issues). The data pieces selected come from a variety of sources and should represent different data types. For instance, if a school system wants to look at student achievement, they may choose the state standardized test scores to be a data point within the triangulation. However, data that show what is happening inside the classroom (e.g., class assessments, observations, student interviews, teacher interviews, lesson plans) must also be selected to form a complete picture of why student achievement is at the level it is.



Why is data triangulation important?

Data triangulation increases the validity and reliability of the results. This means that using multiple data sources to measure a construct increases the likely hood the analysis measures what it says it is measuring and if collected and analyzed again, the data would produce the same result.

When should data triangulation be used?

Data triangulation should be used any time a school or school division is looking to uncover a cause of a phenomenon. This could be a positive or negative occurrence. For instance, if a school district has instituted a reading intervention in their elementary schools and one school's students are showing more growth than the others, district leaders would want to use data triangulation to determine what the more successful school is doing so they could replicate that in the other schools.

How do you conduct data triangulation?
Data triangulation is a process that can be completed independently or with a team. To complete the triangulation process, follow the steps listed below. Suggested questions are provided to help guide you through each step.

Step 1: Determine the question you want to explore and its importance	• What do you want to learn more about? • Why is this important? • Who do you hope will benefit from the analysis of the data? • What do you hope to accomplish with this analysis?
Step 2: Determine the data sources and collect the data	• What specific aspects of the topic am I looking to observe? • What data sources capture these aspects the best? • How are these data sources collected? • When are they collected?
Step 3: Conduct a detailed analysis	• Will you develop themes/codes to look for in the qualitative data? • How will you display the qualitative findings? • What quantitative data that was collected is important to this topic? What can be discarded? • How will you present quantitative data?
Step 4: Identify the key findings	• What themes emerged from the qualitative sources? • Did anything stand out to you in either the qualitative or quantitative data points? • What are the main takeaways (key findings) from each data point?
Step 5: Triangulate the data	• How do the key findings compare across the data points? • Are there any key findings that were the same across data points? • Do any themes emerge when looking at all the key findings? • Did the results of this triangulation answer my questions or is more analysis needed?

Adapted from: *Critical Issues Facing School Leaders Concerning Data-Informed Decision-Making* (School Leadership and Management, 2013), *Triangulation of Student Learning Outcomes Assessment* (The University of North Carolina at Charlotte), *Triangulation* (University of Tennessee Health Science Center), *Multi-Method Triangulation in a Qualitative Study on Teachers' Practical Knowledge: An Attempt to Increase Internal Validity* (Quality & Quantity, 2002), Using the Triangulation of Data (Saskatchewan Math), Valid and Reliable Assessments (The Center on Standards & Assessment Implementation), Triangulation: Get Better Research Results by Using Multiple UX Methods (Nielsen Norman Group), Triangulation – A Best Practice Method (Rapid Asia Co., Ltd.), Developing and Implementing a Triangulation Protocol for Qualitative Health Research (Qualitative Health Research)

DATA TRIANGULATION REFLECTION GUIDE

Directions: Use the following guide to assist in conducting your data triangulation. This tool is five pages long, one for each of the steps, and contains the guiding questions for each step, a space to answer each question, and an area for extra notes.

Step 1: Determine the question you want to explore and its importance	
Question	**Notes**
What do you want to learn more about?	
Why is this important?	
Who do you hope will benefit from the anal of the data?	
What do you hope to accomplish with this analysis?	
Notes:	

Step 2: Determine the data sources and collect the data	
Question	**Notes**
What specific aspects of the topic am I looking to observe?	
What data sources capture these aspects the best?	
How are these data sources collected?	
When are they collected?	
Notes:	

Step 3: Conduct a detailed analysis	
Question	**Notes**
Will you develop themes/codes to look for i the qualitative data?	
How will you display the qualitative findings	
What quantitative data that was collected is important to this topic? What can be discarded?	
How will you present quantitative data?	
Notes:	

Step 4: Identify the key findings	
Question	**Notes**
What themes emerged from the qualitative sources?	
Did anything stand out to you in either the qualitative or quantitative data points?	
What are the main takeaways (key findings) from each data point?	
Notes:	

Step 5: Triangulate the data	
Question	**Notes**
How do the key findings compare across the data points?	
Are there any key findings that were the same across data points?	
Do any themes emerge when looking at all the key findings?	
Did the results of this triangulation answer my questions or is more analysis needed?	
Notes:	

Adapted from: Triangulation – A Best Practice Method (Rapid Asia Co., Ltd.), Developing and Implementing a Triangulation Protocol for Qualitative Health Research (Qualitative Health Research)