What I Wish I Would Have Known About Data Analysis

Jacqueline Montileone │ Office of Accountability and Data Governance │ Feb. 23, 2019

Agenda

- Objectives
- Overview strategies used to manage data analytics
- Utilizing data to drive instruction
  - Use strategies to analyze data
  - Use visualizations to support data analytics
- Revisit Objectives
- Questions, Feedback, and Resources

Objectives

- We will be able to:
  - Identify the benefits of Excel functions/strategies
  - Utilize strategies to improve data analysis
  - Utilize data visualizations to drive instructional decisions

Background

Professional Background

- Williamson Co. Schools from 2009-2018
- 6th-8th grade and Honors Alg. I math teacher
- Math Instructional Coach and Interventionist
  - Built a data system for determining class (math specifically) placement
- Data "guru" for the building
  - Assisting teachers and administration with state-, district-, school-, and classroom-level data analysis
- Lead district development on utilizing data to drive instruction

Current Work

- Accountability and Data Governance
  - Oversee the production, release, and support of district and school accountability
    - Do the business rules represent federal and state policies that guardrail the framework?
    - How do the business rules and policies affect districts, schools, and students?
  - Manage the data quality for the agency
  - Provide support and guidance to districts when utilizing accountability results

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Strategies to Help Manage Data Analytics

Did you know…

- In order for a school to meet its Annual Measurable Objectives (AMO Targets), typically, it only takes each teacher (in the accountability model) moving 1-3 students across a threshold.

- Question to consider:
  - How do teachers utilize their time appropriately to identify the right students and content to meet desired outcomes?

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Problem: I have too much data. How do I know what to use?

- Turn and Talk to those around you and address the following questions:
  - What state-level data impacts my classroom the most?
  - What district-level data am I required to use and impacts my classroom results the most?
  - What classroom-level data do I prefer to use? Why?
    - How do I gather this data?
    - Is it impactful?
    - How can I stream-line the utility of this data?

Solution: Utilize Excel features to find important information

- Conditional Formatting

- Pivot Tables

- Graphs
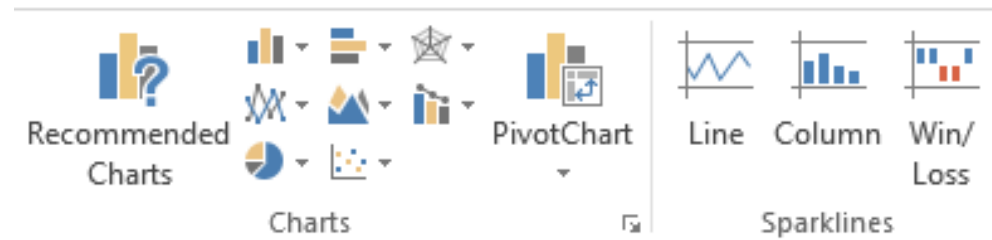
Conditional Formatting

- What is it?
  - Highlighting of cells that meet certain criteria (e.g., greater than, equal to, etc)

- Why should I use it?
  - Apply additional formulas to conditional formatting
  - Easy way to filter
  - Visualization to help analyze and interpret the data

Conditional Formatting

Student Name	Achievement Level	Distric Benchmark	Unit Test
A	Basic	70	85
B	Mastered	85	90
C	Approaching	80	75
D	Approaching	75	80
E	Mastered	90	80
F	On-Track	70	70
G	On-Track	65	75
H	Basic	65	90
I	Mastered	90	95
J	Mastered	95	100
K	On-Track	80	80
L	On-Track	75	65
M	Approaching	65	95
N	Approaching	70	80
O	Approaching	65	85
P	Mastered	90	100
Q	On-Track	85	90
R	On-Track	80	85
S	Mastered	90	100
T	On-Track	75	85
U	On-Track	75	75

Conditional Formatting

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Pivot Tables

- What is it?
  - Allows you to transform large amounts of data while maintaining the original data sheet

- Why should I use it?
  - Analyze large amounts easily and quickly
  - Apply formulas and formatting

Pivot Tables

- Helpful Tips:
  - No blank rows or columns (cells may be blank)

  - Adjust the "Field Setting" to answer the question you desire

  - Drag and Drop until you get the result you are looking for

  - Copy and Paste into a new sheet for further analytics

Pivot Tables

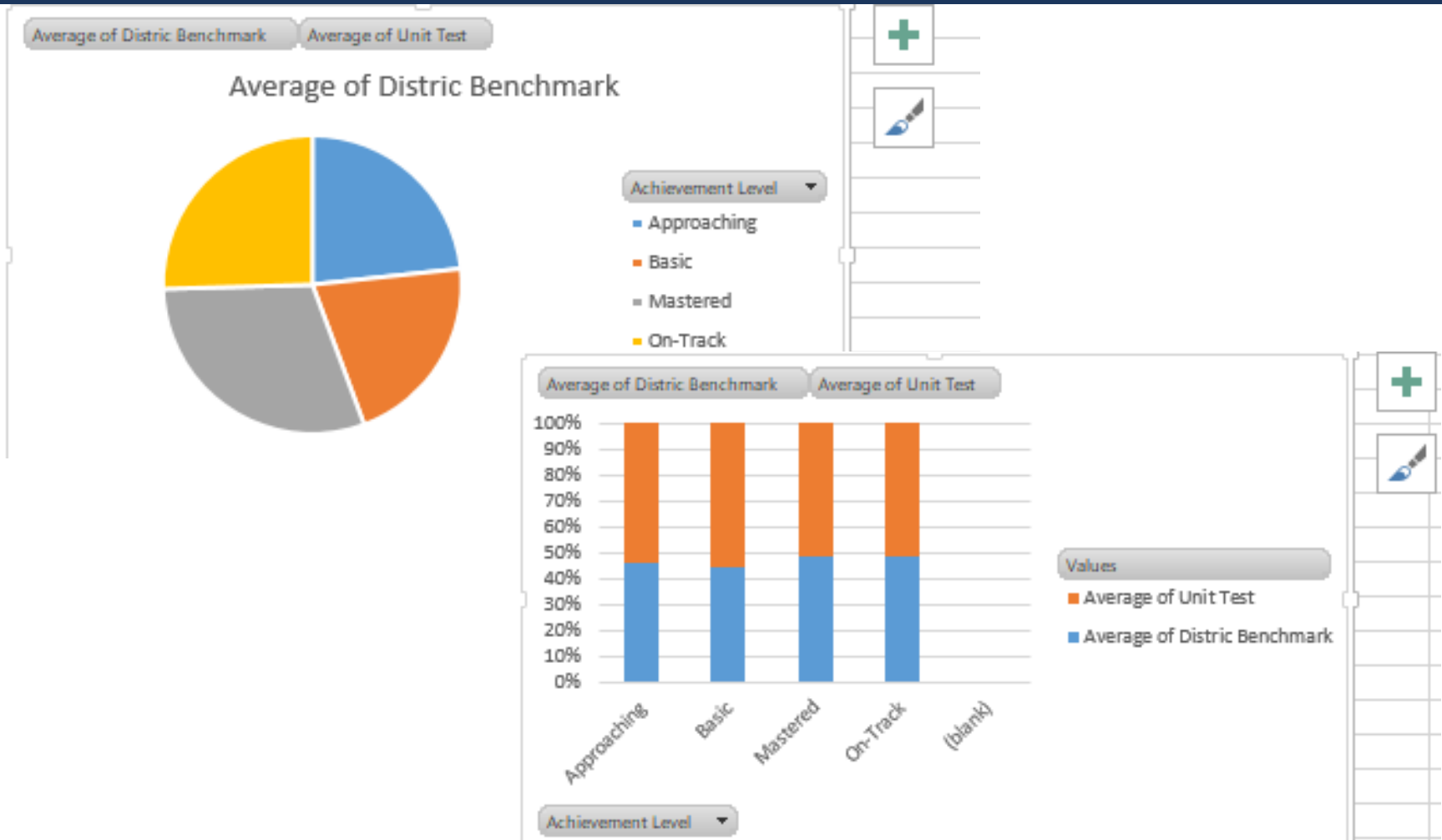# Pivot Tables

Charts and Pivot Charts

- What is it?
  - Insert capable data visuals imbedded into Excel

- Why should I use it?
  - Pivot Charts can utilize the pivot table
  - Copy and Paste directly into other applications
  - Editable features (e.g., color, styling, etc.)

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Charts and Pivot Charts

Problem: Excel intimidates me. Everything I do is in Google Sheets.

- Solution: Google Data Studio
  - What is it?
    - Google application that displays data stories in a user friendly platform

  - Why should I use it?
    - Drag and Drop into a report
    - Provides Data visualizations with ease
    - Utilizes real-time data (refresh)
    - Print/Share out
    - Let's dig in ([here](#))

Google Data Studio

Data Studio

- Take the next few minutes to complete the following task
  - Log into Data Studio
  - Import a spreadsheet
    - File upload (csv)
    - Google Sheet
  - Insert the following:
    - Score Card
    - 2 additional visualizations
  - Add commentary around the data

Data Strategy Discussion

- How will you use the following strategies to make instructional decisions?
  - Conditional Formatting
  - Pivot Tables
  - Data Visualizations (Excel or Data Studio)
- What other strategies help you prioritize data and decision making?

Revisit Objectives

Objectives

- We will be able to:
  - Identify the benefits of Excel functions/strategies
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Questions, Feedback, and Resources

Additional Resources

- [Google Data Studio Support](#)

- [Microsoft Excel Support](#)

- [YouTube](#)

- Please direct any questions to Jacqueline.Montileone@tn.gov.

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Districts and schools in Tennessee will exemplify excellence and equity such that all students are equipped with the knowledge and skills to successfully embark on their chosen path in life.

Excellence | Optimism | Judgment | Courage | Teamwork