
Section 6: Using Data as Information

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Agenda

• Serving on Groups Overview
• Section 6 – Using Data as Information
  o What is data?
  o How can I learn more about data groups use?
  o What are the 8 stages of data use?
• Resources
Serving on Groups Overview

- Developed due to an identified need
- Collaborative effort by stakeholders
- Audience – parents, educators, students, others
- [www.servingongroups.org](http://www.servingongroups.org)
What is Data?

Data...
- Is factual information
- Helps groups make decisions
- Must be:
  - Reliable
  - Valid
  - Accessible
Confidentiality

- A set of rules or a promise
- Limit access or put restrictions on certain types of information
- When working with data as a group, it is important to state if certain information should not be shared with others outside of the group.
Forms of Data

Quantitative Data
- Typically numbers
- Answers the questions:
  - How much? How often? When? Where?

Qualitative Data
- Typically descriptions
- Answers the questions:
  - What is it like? What do you observe about it?
Stages of Data Use

1. Planning & Preparing to Use Data
2. Collecting Data
3. Organizing Data
4. Analyzing Data
5. Developing Hypotheses & Making Recommendations
6. Creating an Action Plan
7. Displaying & Sharing Results
8. Continuous Monitoring for Progress & Improvement
Tool for Using Data

Understanding Data as Information

Stage 1: Planning & Preparing to Use Data (page 36)
What is the question you start out with?

Stage 2: Collecting Data (page 30)
- What did you find the data? (Example: test scores)
- Data on numbers (quantitative)
- Data on charts or graphs (qualitative)

Stage 3: Organizing Data (pages 40-44)
- How is the data organized?
  - Table
  - Graph
  - Chart
  - Additional information

Stage 4: Analyzing Data (pages 45-47)
- Are there patterns in the data?
  - YES
  - NO
  - NOT SURE
- What information is unclear or needs more clarification?

Stage 5: Developing Hypotheses & Making Recommendations (page 48)
- What conclusions are you making based on the data?
- What other questions do you have now?
- What will be included in recommendations for your action plan?

Stage 6: Creating an Action Plan (pages 49)
- How do you plan on achieving the goals?

Stage 7: Displaying & Sharing Results (pages 50-51)
- Displaying the data (e.g., charts, graphs, tables)
- How will you share the results with stakeholders?

Serving on Groups That Make Decisions
Stages of Data Use

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Stage 1: Planning & Preparing to Use Data

What do we want to know?

Tips

- Ask focusing questions
- Use a variety of methods & sources
- Find data already out there - baseline
- Try to find gaps
- Pinpoint possible roadblocks
- Ask others knowledgeable of the data
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Stage 2: Collecting Data

Answer questions to make an informed decision and act.

Data from Schools
- Student Learning Data
- Student Demographic Data
- School Perception Data
- School Process Data

Families as a Data Source
- Surveys
- Focus Groups
- Participants or Attendees
- School Perception Data
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Stage 3: Organizing Data

Aggregated Data:
a whole set of data formed by combining several parts

Disaggregated Data:
a whole set of data separated into its categories or subgroups

Youth 20-24 Neither Enrolled in School Nor Working

- 48% Less than HS
- 32% HS diploma
- 10% Some college
- 10% Bachelor’s degree +

Youth 20-24 Neither in School Nor Working with HS Diploma by Race/Ethnicity

- White
- Black
- Hispa...
- Asian
- Nativ...
- 2+...
Stage 3: Organizing Data

**Triangulated Data:**
Use of multiple independent sources of data to establish the truth & accuracy of a claim.

- References
- Essay
- Extracurricular Activities
- High School Grades
- ACT/SAT Scores
- Interview
- Application

College Admissions

Serving on Groups That Make Decisions
Stage 3: Organizing Data

Tips for Interpreting Graphs

Read all labels.

- What is...
  - in each COLUMN?
  - in each ROW?
  - the RANGE OF VALUES?

- Where was...
  - the MOST change or growth?
  - the LEAST change or growth?
Stage 3: Organizing Data

A Snapshot in Time

2012 Post High School Outcomes
(699 Students responded Statewide)

- 34.6% Higher Education
- 21.2% Competitive Employment
- 11.0% Other Postsecondary Education or Training
- 3.3% Other Employment
- 29.9% Indicator 14 Categories Not Met

www.posthighsurvey.org
Stage 3: Organizing Data

Comparisons

2012-2013 Elementary Enrollment
Total = 603 students

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 4</td>
<td>96</td>
</tr>
<tr>
<td>K</td>
<td>86</td>
</tr>
<tr>
<td>1st</td>
<td>77</td>
</tr>
<tr>
<td>2nd</td>
<td>88</td>
</tr>
<tr>
<td>3rd</td>
<td>78</td>
</tr>
<tr>
<td>4th</td>
<td>83</td>
</tr>
<tr>
<td>5th</td>
<td>95</td>
</tr>
</tbody>
</table>
Stage 3: Organizing Data

Trends

Percentage of District Students Scoring Proficient or Advanced in Reading

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State - All Students</td>
<td>35.5%</td>
<td>35.7%</td>
<td>36.0%</td>
<td>36.4%</td>
<td>36.6%</td>
</tr>
<tr>
<td>District - All Students</td>
<td>24.1%</td>
<td>23.8%</td>
<td>23.2%</td>
<td>26.4%</td>
<td>25.6%</td>
</tr>
<tr>
<td>District - Students with Disabilities</td>
<td>8.8%</td>
<td>9.4%</td>
<td>13.3%</td>
<td>10.1%</td>
<td>9.4%</td>
</tr>
<tr>
<td>District - Economically Disadvantaged</td>
<td>13.8%</td>
<td>17.3%</td>
<td>17.4%</td>
<td>19.7%</td>
<td>19.8%</td>
</tr>
</tbody>
</table>

Serving on Groups That Make Decisions
Stage 3: Organizing Data

Tips to Validate the Findings

To make sure the data are sound:

- Use trusted sources
- Follow-up with questions
- Use different ways of gathering data
- Ensure everyone agrees and accepts the findings
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Stage 4: Analyzing Data

Look for Relationships in the Data

- Each view provides unique insight
- Look from many viewpoints
- Understand the parts as well as the whole
- Strengths and challenges
- Don’t draw conclusions too soon
- Record information as it appears in the source
Stage 4: Analyzing Data

Terms when Working with Numbers

- **MEAN** – average of a group of numbers
  \[1+2+3+4+5=15\] divided by 5  \[\text{3 is Mean}\]

- **MEDIAN** – middle value
  \[2, 1, 8, 3, 6, 10, 2, 6, 7, 3, 3, 2, 2\]
  \[1, 2, 2, 2, 2, 3, 3, 6, 6, 7, 8, 10\]  \[\text{3 is Median}\]

- **MODE** – most frequent value
  \[2, 1, 8, 3, 6, 10, 2, 6, 7, 3, 3, 2, 2\]  \[\text{2 is Mode}\]

- **RANGE** – difference between lowest & highest
  \[1, 2, 2, 2, 2, 3, 3, 6, 6, 7, 8, 10\]
  10 minus 1  \[\text{9 is the Range}\]

- **OUTLIER** – very high or very low number
  \[2, 1, 8, 3, 6, 10, 2, 27, 6, 7, 3, 3, 2, 2\]  \[\text{27 is outlier}\]

- **STATISTICALLY SIGNIFICANT** – results true & not because of chance
Stage 4: Analyzing Data

Examples of Working with Numbers

**January Reading Scores**

- Mean = 817.3
- Median = 825
- Mode = 880
- Range = 665

**Student A's Reading Scores**

- Outlier

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Serving on Groups That Make Decisions
Stage 5: Developing Hypotheses & Making Recommendations

Hypotheses *(if, then, because)*
- Understand why we *think* it is happening
- Look at other data
- Ask additional questions
- Agree upon the conclusions
- Figure out possible solutions

Recommendations
Stages of Data Use

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5. Developing Hypotheses & Making Recommendations
6. **Creating an Action Plan**
7. Displaying & Sharing Results
8. Continuous Monitoring for Progress & Improvement
Stage 6: Creating an Action Plan

1. Bring key people together
2. Figure out:
   - What
   - Who
   - When
   - Where
   - Resources
   - Communication
3. Review completed action plan
4. Follow through
5. Communicate
6. Keep track of progress
7. Celebrate!
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Stage 7: Displaying & Sharing Results

Displaying Results

- Make Sure the Report is:
  - Appealing
  - Accessible
  - Accurate
  - Audience-specific

- Be Fair and Objective
Stage 7: Displaying & Sharing Results

Sharing Results

▪ Know the Purpose of your Report
  ▪ Does it need to provide information?
  ▪ Is it to raise awareness?
  ▪ Will it be used to make decisions?

▪ Know your Audience
  ▪ What do they already know about the topic?
  ▪ Do they need the big picture or lots of details?
Stage 7: Displaying & Sharing Results

Make the Data Come Alive

Social Math

- Relating data numbers to what is familiar and concrete to your audience.

Data Stories

- Compelling narrative
- Audience-Specific
- Be objective
- Don’t censor
- Explain the data

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Stage 8: Continuous Monitoring for Progress & Improvement

Check Your Work
- Regularly revisit the plan
- Identify challenges
- Make changes as needed

Evaluate the Action Plan
- Collect the same TYPE of data from the same data SOURCE
Stage 8: Continuous Monitoring for Progress & Improvement

Process Begins Again

Ask yourself:

- To what extent has the initial question been answered?
- What new concerns or questions have come up?
- Which factors are clearly understood and which ones need more data?
- **Has the situation improved?**
Review

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Serving on Groups That Make Decisions
Section 6 Resources

- **Data-driven Decision Making** (video 3:28) https://www.youtube.com/watch?v=9Lew4yWlv5Q
- **What is Data-Driven Decision Making?** (video 4:17) https://www.youtube.com/watch?v=5efZCmUaTyw
- **WISEdash** (WI Information System for Education Data Dashboard) http://wisedash.dpi.wi.gov/
- **Intro to WISEdash** (video 3:27) https://www.youtube.com/watch?v=c5HicpvXoGI&feature=youtu.be
- **National Center for Education Statistics Kids’ Zone** https://nces.ed.gov/nceskids/
- **Profile of Your State/County** https://data.census.gov/cedsci/profile?g=0100000US
- **Data about Children in Your State** http://datacenter.kidscount.org/
- **WI School Performance Report** https://dpi.wi.gov/spr
- **U.S. Dept. of Education Public Data Listing** https://www2.ed.gov/about/data/list.html
- **Data.gov** (U.S. Open Data) https://www.data.gov/
- **WI Post High School Survey Data** (Indicator 14) https://www.indicator14wi.org/reports.statewide.php
- **Census Bureau Quick Facts Data** https://www.census.gov/quickfacts/fact/table/US/PST045217
Section 6 Resources

• Data Driven: Making Student and School Data Accessible and Meaningful To Families, U.S. Dept. of Ed. (video 1:20:00) https://www.youtube.com/watch?v=BF-UPuEMyS8
• Data Visualization: User-Centered Design https://blueavocado.org/leadership-and-management/data-visualization-user-centered-design/
• What is Data? (video 2:45) https://www.youtube.com/watch?v=EhcWQmg9EeE

• Data Use (Institute of Education Sciences) https://ies.ed.gov/ncee/edlabs/projects/data_use.asp
• Sample Confidentiality Policy http://www.thebuilders.com/site/publisher/files/Confidentiality_Policy.pdf
• Constructing a Hypothesis https://www.youtube.com/watch?v=IMVuPJc1waY
11/4/2021:
7. The Role of Families on Groups
8. Skills for Serving on Groups

Register:  http://wifacets.org/events

Thank you!
Please remember to complete the evaluation!

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