

JCFS' Vocational & Employment Visualization Over the Years

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Background

- JCFS and JVS merge officially in 2018.
- Goals since 2018:
 - Building data literacy and CQI capacity.
 - Data-driven environment-building.
 - Monitoring assessment reliability.

Background

- How do we achieve these goals?
 - On-the-ground accessibility, relationship-building
 - Visualization and information sharing

Overview of Change

- **2017-2018:** data exploration, non-outcome data, reporting useful in the moment for CQI committees
- **2019-2020:** Back to basics! Sustainability and continuity focus.
- **2021:** Integration of branding, consistency. Reincorporating drill-down data where needed. Visualization as a tool and exercise.

Visualization Examples

Four visualization examples shared during presentation:

1. Outcomes Overview
2. Skill Attainment Outcome
3. Demographics
4. Service Delivery

Example 1: Outcomes – Overview

- **2017/2018:** Bullet points. Information is present but hard to make out change over time, comparisons, trajectory.
- **2019/2020:** Movement towards a more visually-appealing and clear overview, but unclear what the takeaway is, partially due to short data history.
- **2021:** More uniformity, seeing change over time, later-needed data points (raw N's and %s) are shown
- **Next steps:** now that we have longer-term data, track achievement over time for some indicators.

Example 2: Outcomes – Skill Attainment

- **2017/2018:** Hard to read, colorful but no color consistency, complex (good!) but the graph's takeaway isn't the most important aspect of the outcome (assessment completion). Assessment barely being used.
- **2019/2020:** Pared back. Clear sentences, focus on assessment use. It would be disingenuous to rigorously visualize an assessment only used sporadically.
- **2021:** Increase visualization, keep focus on assessment use. Show benchmarks and past achievement.
- **Next steps:** Assessment has gone through full re-envisioning. Learned a lot from staff about what's important for them to see in visualizations of this outcome.

Example 3: Demographics

- **2017/2018:** Each demographic had its own table. Focus was on unknowns/incomplete data. Important at the time, and good for consistency in use.
- **2019/2020:** Move to singular table. A bit messy but helpful and streamlined.
- **2021:** Move table to appendix, show demographic highlights within the report – all simple charts. Shows who clients are *now*, rather than focusing on *change*.
- **Next steps:** How do we incorporate communicating major client demographic change while still focusing on current demographics?

Example 4: Service Delivery

- **2017/2018:** Light color palette, too much bold, decimals increase noise and confusion.
- **2019/2020:** Toned down noise, moved away from decimals. Unclear what the takeaway of the visualization is.
- **2021:** Include paragraph with table – color major changes that need to be pointed out, use subdued color for older data.
- **Next steps:** Show hours per client over time, cancellations per program, or other highlights of service delivery.

Conclusion

- Visualization should be complex, useful, and used.
- **Visualization \neq charts.** The point is of visualization is to (a) communicate information and (b) provide your audience with an opportunity to explore and reason with data. Base your medium on those goals: color, tables, sentences, etc.
- Give yourself the opportunity to look back and see your own progress!



Academic Growth Data & “Companion” Spreadsheet

Emily Shapiro

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Academic data (from FastBridge)



School staff and administrators



Four times per year



Progress monitoring, improvement, curriculum decisions

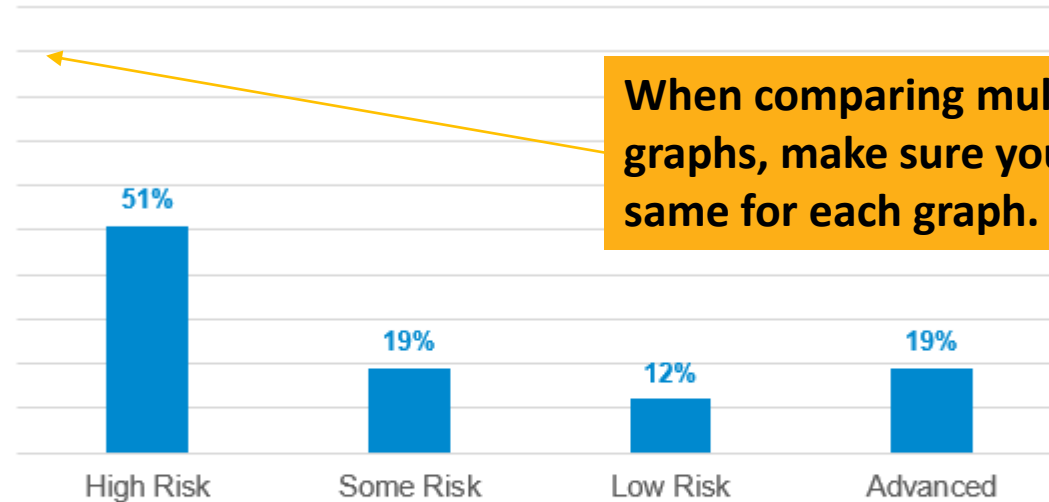


SPSS for analysis, Excel for visuals

Colors are agency-branded colors



About **half of students** tested in the **High Risk** category.

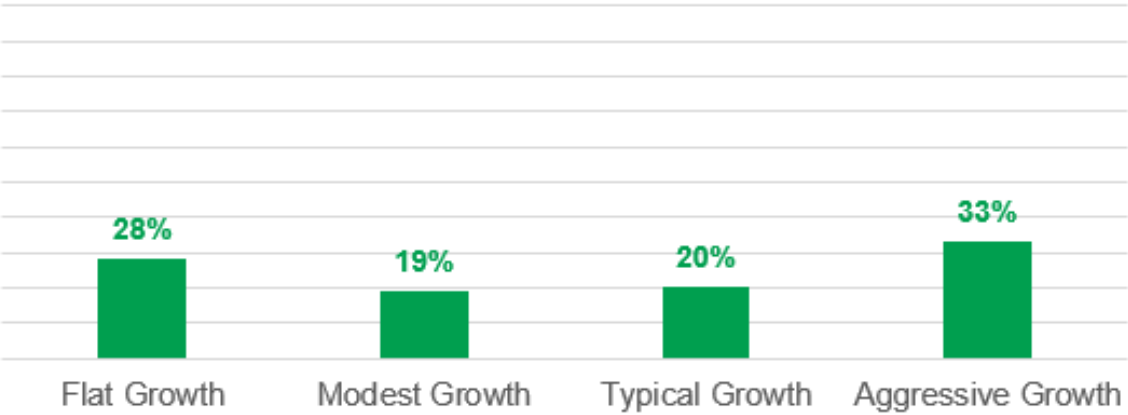


When comparing multiple bar graphs, make sure your axes are the same for each graph.

Colors are used consistently throughout the report for specific results (e.g., Risk Level = Blue, Growth Data = Green).

	High Risk	Some Risk	Low Risk	Advanced	Total
Elementary	14	9	3	3	29
Junior High	18	4	3	3	28
High School	12	3	4	10	29
Total	44	16	10	16	86

About **half of students** made **Typical** to **Aggressive Growth**.



Using tables to drill-down by Risk Level (helpful for small n)

Risk Level	Flat Growth	Modest Growth	Typical Growth	Aggressive Growth	Total
Advanced	1	4	4	5	14
Low Risk	1	2	2	3	8
Some Risk	4	3	2	4	13
High Risk	13	4	6	11	34
Total	19	13	14	23	69

...and grade level

Grade Level	Flat Growth	Modest Growth	Typical Growth	Aggressive Growth	Total
Elementary	8	2	5	7	22
Junior High	8	3	3	11	25
High School	3	8	9	5	22
Total	19	13	14	23	69

Bar graphs are cool and all...

But the “Companion” spreadsheet gets the data in the hands of those who can **USE** it

A simplified table + slicers = accessible data

Teacher

Mr. C
Mr. H
Mr. J
Mr. L
Mr. N
Mr. O
Mr. S
Mr. Z
Ms. A

Grade

1
2
3
4
5
6
7
8
9

Fall to Winter Gro...

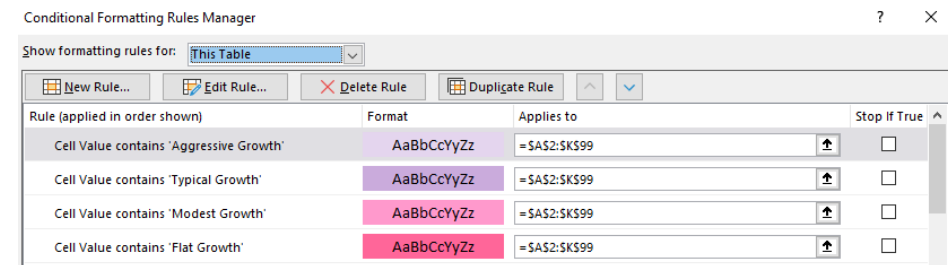
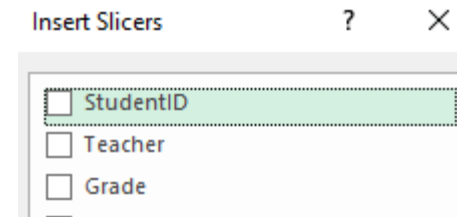
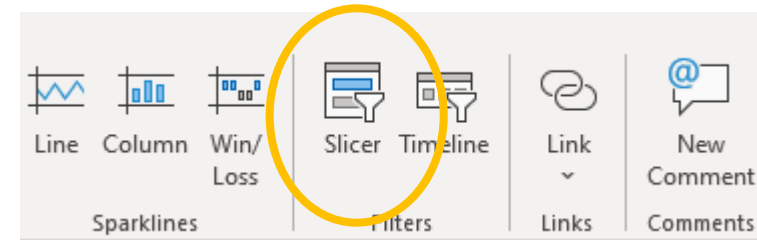
Aggressive Growth
Flat Growth
Modest Growth
Typical Growth

StudentID	Teacher	Grade	FallaReadingTestTheta	Fall Risk Level	V
11111	Mr. O	4	443.4011	High Risk	
11112	Mr. O	3	506.82626	Advanced	
11113	Mr. N	4	482.71112	High Risk	
11114	Mr. O	4	478.65155	High Risk	
11115	Ms. M	6	367.38782	High Risk	
11116	Mr. H	5	466.60013	High Risk	
11117	Mr. O	4	389.74048	High Risk	
11118	Ms. H	6	458.47736	High Risk	
11119	Ms. A	7	350.2306	High Risk	
11120	Ms. H	8	427.5583	High Risk	
11121	Mr. H	8	486.4665	High Risk	
11122	Ms. H	8	473.4773	High Risk	
11123	Ms. D	10	472.85318	High Risk	
11124	Ms. M	5	486.81067	High Risk	
11125	Mr. Z	9	508.54938	Some Risk	
11126	Ms. P	7	513.5133	Some Risk	
11127	Ms. A	7	531.91846	Low Risk	
11128	Ms. P	6	524.8254	Low Risk	
11129	Ms. H	7	527.23676	Low Risk	
11130	Ms. D	9	477.6941	High Risk	
11131	Ms. A	8	505.21536	High Risk	
11132	Ms. E	4			
11133	Mr. J	12	350	High Risk	
11134	Mr. Z	11	541.18207	Low Risk	
11135	Ms. E	4	493.6916	Some Risk	
11136	Ms. B	9	542.71216	Low Risk	
11137	Mr. O	4	382.187	High Risk	
11138	Ms. P	7	534.6653	Low Risk	
11139	Ms. M	5	517.039	Low Risk	
11140	Mr. O	4	446.15543	High Risk	
11141	Ms. E	5	458.93542	High Risk	
11142	Ms. K	11	569.8434	Advanced	
11143	Ms. D	11	510.04355	High Risk	
11144	Ms. H	6	536.4925	Advanced	
11145	Mr. N	5	493.13232	High Risk	
11146	Mr. J	10	521.611	Some Risk	
11147	Mr. C	1	456.2113	Low Risk	
11148	Ms. D	9	470.15988	High Risk	
11149	Ms. K	11	576.8671	Advanced	
11150	Ms. E	5	519.04755	Low Risk	

How to

1. Create a table in Excel
2. Go to Insert > Slicer
3. Select the column(s) you want to use to filter results
4. Use Conditional Formatting to color-code results

Tip! Copy over your dataset you used for analysis and simplify



Creating a Visual Annual Report in Excel and Publisher

1. Create an Excel Spreadsheet
2. Add in the data you want to visualize (I make a tab for each program)
3. Create all the charts in the Excel spreadsheet (I use column, line and very rarely pie charts)
4. I only use 3 years of comparison data.
5. Make the charts clean and readable (remove lines, add data labels, add descriptor, change colors, change font style and size)
6. Make a style guide!! (example below)
7. Try to match the colors and font of your organization (ask marketing and communications staff for this)
8. Create the reports in Publisher (I do a separate page for each program and merge the pages later)
9. Consider page size (I use legal size for this report...who says everything needs to be 8 ½ by 11??)
10. Create text boxes for titles, text or quotes (Publisher has guiding lines for centering, margins, etc, which are super helpful)
11. Copy and paste charts into the Publisher reports as a .jpg or png. Files
12. Use Icons from Microsoft Word to create visuals for data not represented in charts. Icons can be found on the Insert ribbon under Illustrations. (don't go too crazy with Icons even if they are cute!)
13. For FY2020, I added more text to the report: a note on COVID-19 and its effect on tracking program outcomes and 3 extra pages of success stories.
14. Remember: you do not need to include everything in the report. Keep it simple. If someone asks for more information, you can provide it (or you can add a larger appendix).
15. Finally: Be creative and have fun!

Example of a Style Guide:

- Page titles: Arial Black Size 48
- Chart Titles: Arial Black Size 16
- Legends: Arial-Bold- Size 12
- Descriptor Sentences: Arial Size 12
- Data Labels: Arial Black Size 12
- Gap Width (Column Chart): 70%
- Gap Width (Line Chart): 70%
- Line chart marker: Size 7
- Colors:
 - Blue: R 0, G 112, B 192
 - Green: R 120, G 190, B 32

Note: the first time you build this, it will take time. But each year, it gets easier to update. For the most part, you are only adding in new charts with updated data and making minor updates and changes.

This report is presented to our full Board annually. It is emailed to all staff and the full report plus each individual page is uploaded to our PQI SharePoint site. This year, I did 2 virtual meetings to present the report: one for supervisors and leaders, and one for all staff. The goal of doing these virtual presentations was to increase staff data literacy, promote a data culture and to celebrate our successes as an agency for FY20.

Melissa Curtis, Manager of Performance and Quality Improvement, Lawrence Hall, mcurtis@lawrencehall.org

Telling Your Data Story: Data Visualization and Annual Data Reporting 5/14/21

- Introduction to CQI Community:
- Zoom Polls

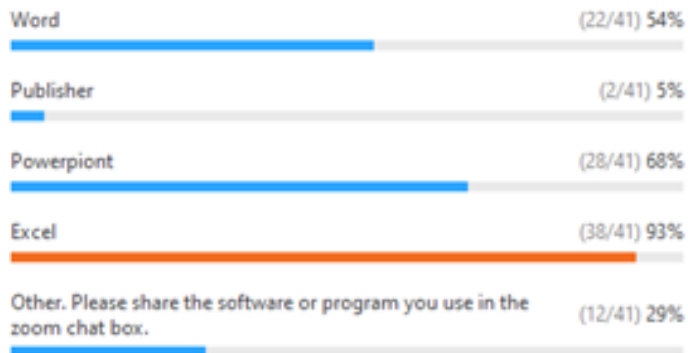
Polling 1: Familiarity with data viz Edit

Polling is closed 41 voted

1. What is your level of expertise in data viz?



2. What software or programs do you use for data viz? (Multiple choice)



Other Software Programs

- *Power BI*
- *Salesforce*
- *PiktoChart*
- *ACCESS*
- *Tableau – non-profit can get 2 year subscription covered by a sponsor for a small administration fee*
- *SAS, R & Python*
- *Sata*
- *Nounproject*
- *Canva*
- *PowerPoint*
- *Word Cloud*
- *FastBridge assessments, Excel Slicers: emilyshapiro@jcfs.org*

- Data Viz Presentations:
(mini-“how to” – e.g., software you used, purpose of document, and short Q&A)
 - Melissa Curtis – Lawrence Hall
 - Ken Hundrieser – Kids Above
 - Emily Shapiro and Mimi Stern – JCFS Chicago

- Data Visualization Resources
 - Data Playbook – Making Meaning: <https://www.schusterman.org/playbooks/data/making-meaning/>
 - Depict Data Studio: <https://depictdatastudio.com/blog/>
 - Stephanie Evergreen Data Visualization Checklist: <https://stephanieevergreen.com/data-visualization-checklist/>
 - Avail Advisors: <https://www.availadvisors.com/blog/>
- Open Share
- Closing/Announcements