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## Data Visualization (VIDEO)

Quality Improvement Center for Workforce Development

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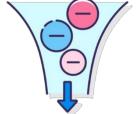
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# Data Visualization

#### How Can You Better Collect and Organize Data to Support Visualization?

- Collect data at the lowest level of granularity as possible
- Determine how data elements are collected and are related to each other
- Understand who and how institutional data is currently governed
- Map changes to data elements, collection methods, and governance across relevant time periods
- Identify opportunities to "close" open text elements



#### What Visual Is Most Appropriate for Your Data?

Understanding how your data is structured can eliminate certain design options.

Interactive version @ https://ft-interactive.github.io/visual-vocabulary/

| Deviation  | Correlation  | Ranking  | Distribution   | Change over Time   | Magnitude  | Part-to-whole  | Spatial   | Flow   |
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#### How Can You Develop Visualizations That Respect Visual Perception of Information?

**Design Objectives** 

- Accurate representation
- Facilitates accurate and quick understanding
- Memorable
- Appropriate amount of data/context
  - Orientation
  - Shape/Symbols
- Tint amount of white
  - Line length
  - Line width
- Colorfulness as compared to gray

• Hue

• Saturation/Brightness – amount of gray

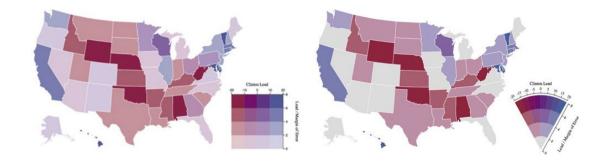
• Shade - amount of black

- Curvature
- Enclosure
- Spatial position
- Motion
- Texture

- Selecting Color Palette
  - Color-blind
  - Perceptual ordering/categories

• Size

- Captures nuances of variations
- Conveys gradients
- Displays uncertainty when relevant
- Works across mediums



#### Focusing Intended Users' Focus

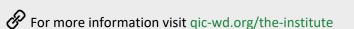
- Understand what your end-users will focus their attention on based on their role, interest, expertise, and familiarity with data and relevant issues.
- Every element you add to the page or screen takes up a cognitive load on the end-user
- Does your design reflect what areas you want the end-user to focus their attention



Tools & Platforms

| Beginner           | Intermediate       | Jedi          |
|--------------------|--------------------|---------------|
| Excel              | Tableau            | D3.js         |
| <u>my.visme.co</u> | <u>Power Bl</u>    | <u>R</u>      |
| Infogram.com       | Google Data Studio | <u>Python</u> |
| piktochart.com     | <u>Qlik</u>        |               |
|                    | <u>Domo</u>        |               |
|                    | <u>SAS</u>         |               |





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