Dimensionless Data, Visualized

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Health Sciences Libraries

DASH Workshop Series

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LIBRARIES

Overview

1. Warm-up activity
2. Thinking about design in visualized data
3. Thinking about data dimensionality
4. Workshop activity
5. Wrapping up

Activity

5 minutes

Using markers and sticky notes provided, find as many ways possible to visually represent the following data set as you see fit:

16 84

As a group, organize your representations into categories based on method, aspect, or form of representation and share on the board

http://blog.visual.ly/45-ways-to-communicate-two-quantities/

Design Thinking

FACETS OF DESIGN IN DATA VISUALIZATION

1. **Effective design**
2. **Ethical design**
3. **Universal design**

Design Thinking

PRINCIPLES OF EFFECTIVE VISUALIZATION

1. Visualized data is **intuitive**

2. Visualized data engages and invites the viewer to ask **more questions**

3. Visualized data facilitates **discovery**

Objectives

1. Understand what “effective visualization” means in terms of clear, intentional communication of data

2. Develop the facility to become a data detective – not only with your own data, but also with that of others

Guiding Questions

1. Is there such a thing as "**dimensionless data**?"

“Dimensionless” data

13 42 89 12 13 52 60 99

“Dimensionless” data

99 89 60 52 42 13 13 12

“Dimensionless” data

13 42 89 12 13 52 60 99

“Dimensionless” data

13	42
89	12
13	52
60	99

Guiding Questions

1. Is there such a thing as "**dimensionless data**?"

2. What does data dimensionality look like in **your own disciplines**?

3. How is data **transformed** when you visualize it?

Dimensionality

13 42 89 12 13 52 60 99

Dimensionality

Visualization as a mode of representation inherently ascribes dimensionality

Why?

Because dimensionality is an expression of the relationships between data

Dimensionality

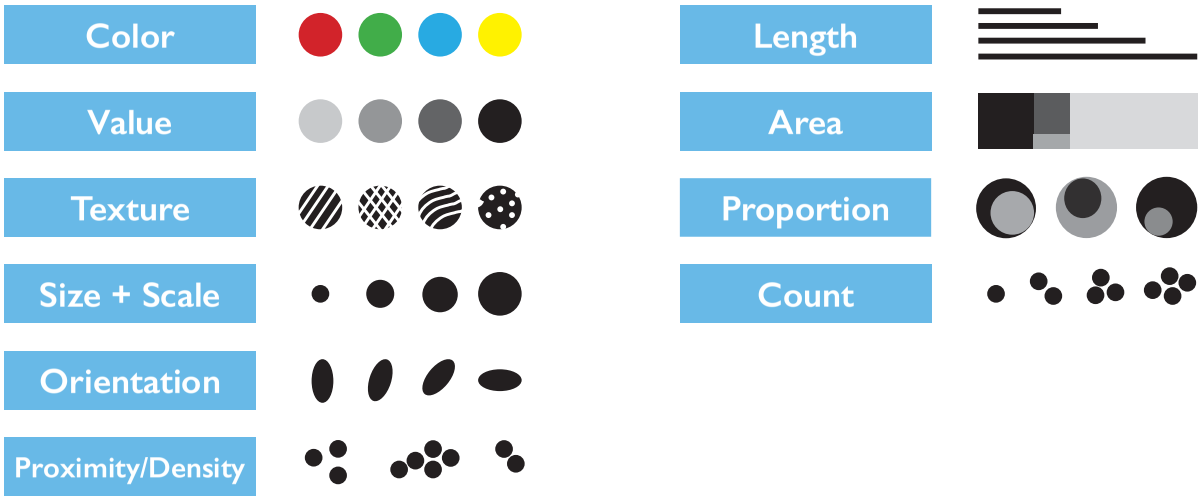
TYPES OF DIMENSIONALITY

Qualitative

Quantitative

Dimensionality

MODES OF REPRESENTATION



Dimensionality

Visualization is most successful when

unexpected interpretations

emerge out of

new dimensions

Workshop

Telepictionary, with data

Workshop Plan

http://www.random.org/integers/

1. In small groups, determine an interpretation for the data set provided
2. Work together to produce a visualization of the data that clearly communicates that interpretation
3. Pass your visualization on to another table
4. In each group, use the visualization received from another table to produce another visualization that communicates an *alternative* interpretation of the data, as provided
5. Repeat this process 3 times

Discussion

1. How accurate were initial interpretations?

2. Did you find interpretations of your data that were surprising?

3. Are there ways in which you could have communicated your data more effectively?

Dimensionality, revisited

Is there such a thing as "**dimensionless data**?"

Visualization assumes data are infinitely dimensional

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