

Supplementary Materials

VisGuides: A Forum for Discussing Visualization Guidelines

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Examples of Guidelines and Questions on VisGuides

The Blow Apart Effect. *Guideline:* Do not use blow apart effects. Can I use the blow apart effect as feedback for a linked-view interface? As part of a dashboard, I have implemented a bar chart showing data from 20-50 sources. The color channel has been used to indicate the 7 categories of these sources. When one source is selected in another view, I move other bars on both sides of the selected source a little away. A visualization researcher told me that I should not do this as it is a blow apart effect. But what he suggested seems to be equally problematic (e.g., making thicker outline, changing size, animation, and so on). Please help.

Rainbow Colormap. *Guideline:* Rainbow Colormap is considered harmful. I represent a group of environmental scientists. We see and create visualizations with rainbow colormaps in thousands. It would be a pain if everyone uses a different colormap for each variable in these visualization. Is there a standard colormap we can use as a default map that everyone understand? Can visualization researchers be more constructive by recommending a colormap that maximize the perceptual bandwidth while minimize the problems such as being unsuitable for color blindness?

The Lie Factor Guideline by E. Tufte. *Guideline:* The representation of numbers, as physically measured on the surface of the graphic itself, should be directly proportional to the quantities represented. Are there any conditions where this rule may be relaxed? If this rule could not be relaxed in any situation, metro maps would be considered as big lies.

Data-Ink Ratio Principle, How to use it? *Guideline:* Good visualization should maximize data-ink ratio. I have some difficulties to follow this guideline and need some advice. On a computer screen, white colors use more energy. In a bar chart, if I use a black or colored background, do I use less non-data-ink than the white background? If I use wider bars, do I use more data-ink than narrow bars? If I use a dot to represent the top of each bar, so I use less data-ink than bars?

Action without Interaction. *Guideline:* Use interaction in visualization sparsely and cautiously. I accidentally found this guideline online. I guess that the author (Gröller) may not wish to call it a guideline, but I find this intriguing as many in visualization seem to argue for more interaction. I also find this thinking may be useful in many situations. I am wondering how much interaction is too much and how much is too little. I also wonder if the amount of interaction is a function of data, users, and tasks. Can Der Meister or his former and current students offer more insights on this guideline?

The Correspondence Principle. *Guideline:* The same data should produce the same visualization ($D \rightarrow V$). I agree with this guideline in an illusive manner. But I am not sure what “same visualization” really means. If one replaces a bar chart with a pie chart, one high-res display with a low-res one, one view of a 3D scene with another view, one iso-value with another, and so on, do they lead to a different or the same visualization? If the function $D \rightarrow V$ is absolutely fixed, different people may see different visualizations due to the difference of their visual systems or environments (e.g., color blindness, and lighting in the room).