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Module 1 Quiz

LATEST SUBMISSION GRADE
88.88%

1. True/False: You have 3 data points: 29%, 33%, 31%. It is appropriate to adjust the y-axis to start at 25% because the numbers are so close to each other. **1 / 1 point**

- (•) False
- ( ) True

✓ Correct
The fact that the numbers are so close to each other is exactly why we'd want to see them compared with the y-axis starting at 0.

2. Although most authors view pie charts as to-be-avoided at all costs, others do see them as effective. Select the one scenario where both pro- and anti-pie chart writers will agree that pie charts should not be used. **1 / 1 point**

- ( ) To put the audience in a positive frame of mind.
- ( ) A pie chart with 2 slices.
- (•) When there are 5 or more categories that are to be compared.
- ( ) When Communicating part-to-whole relationship.

✓ Correct
Too many categories to compare is best perceived in a bar graph visualization.

3. According to your readings, a functionalist perspective of data visualization is _____. **1 / 1 point**

- (•) When a visualization effectively represents the data so that is can be understood quickly and easily.
- ( ) When a visualization is comprehensive and can answer every question in one view.
- ( ) When a visualization is exciting to look at.
- ( ) When a visualization uses many colors.

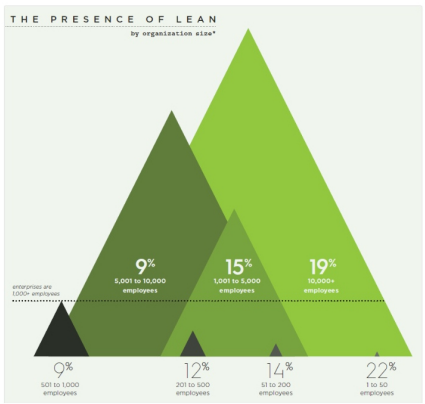
✓ Correct
The author of the article, Good Visualizations Should Be Boring, defines functionalist perspective as saying, *"the purpose of visualization is to most effectively represent that data so that it can be understood by the audience both most quickly and easily."*

4. What's the one thing definitively wrong with this visualization: **1 / 1 point**

- ( ) "Then" should be yellow; "now" should be green.
- (•) The y-axis doesn't start at zero.
- ( ) Branding visualizations should be avoided at all costs.
- ( ) The numbers are wrong.

✓ Correct
This one is labeled as definitively wrong, while the other options are either not definitely, problematic, or unknown.

5. This visualization has several issues with its design. Identify the only one of the following that is not an issue with this visualization. **1 / 1 point**



- ( ) The reference line is not clear.
- ( ) It's very difficult to interpret.
- ( ) The bar heights do not match the percentages.
- (•) There is too much text.

✓ Correct
There are so many things wrong with this visualization, but this is not one of them.

6. According to your readings, if you have a lot of categories in time series data, what is the best approach for your visualization from the following options: **1 / 1 point**

- Stacked area graphs
- (•) Trellis plot
- A stream graph (a type of stacked area graph displaced around a central axis)
- Line graphs with totals above

✓ **Correct**
Based on the reading, Stacked Area Graphs Are Not Your Friend, using a trellis plot is the best approach, although in certain circumstances the other options, except stacked area graphs, might be okay.

7. True/False: It is more helpful to the reader to eliminate the axis altogether where appropriate and label individual data elements on the visualization itself. **1 / 1 point**

- (•) True
- False

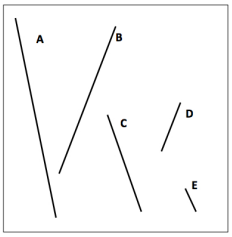
✓ **Correct**
Counterintuitive, but it's easier for people to read a visualization if it's labeled directly; and since it's labeled directly at least one of the axis can be eliminated.

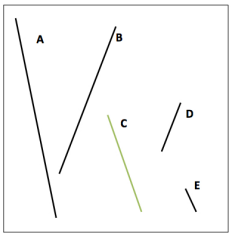
8. A 3D chart should be used only in the following circumstances: **1 / 1 point**

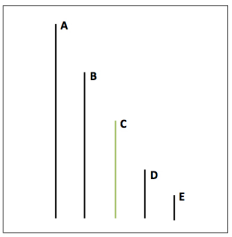
- Only when you need to compare values across categories.
- (•) Only when you need to plot three-dimensional data.
- Whenever possible as long as you ensure that elements are well labeled.
- Whenever you want to add visual elements to your visualization that pop.

✓ **Correct**
But for the most part, you basically never want to use a 3D chart.

9. Can you find the line with the average length in this set? **1 / 1 point**







- Line B
- Line D
- Line A
- Line E
- (•) Line C

✓ **Correct**

Line length is a "pop-out" effect (pre-attentive attribute) that the human brain can quickly process.

10. When doing a visualization for a small committee that is looking at gender (male/female) comparisons, which of the chart choices is not recommended to use: **0 / 1 point**

- (•) Bar graph
- ( ) Radar chart
- ( ) Cross-tabulation or table
- ( ) Pie chart

! **Incorrect**
Please revisit the lesson ***Types of Visualizations***.

11. A scatterplot is useful for showing _____. **0 / 1 point**

- ( ) Spatial information.
- ( ) Dimension on one axis and measures on the other axis.
- ( ) Two different measures.
- (•) Data that are at different time periods.

! **Incorrect**
Please revisit the lesson ***Types of Visualizations***.

12. Pick the one time that you should not use a table. **1 / 1 point**

- ( ) Always avoid tables bigger than 2 x 2
- (•) When you are presenting to a large, live meeting.
- ( ) At a committee meeting where people can spend time focusing on the visual.
- ( ) On a website which people will access on their own time.

✓ **Correct**
Tables are great, but it does make it hard for people to concentrate on both your talking and understanding the table. So try to avoid it.

13. Humans have developed perceptual and cognitive capabilities that initially tend to favor _____? **1 / 1 point**

- (•) Speed
- ( ) Accuracy
- ( ) Precision and completeness

✓ **Correct**

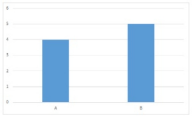
Fast visual processing and pattern detection were important to our ancestors because quick detection and reaction times could mean the difference between life and death, even if there were some false alarms. The ability to rapidly detect patterns without conscious effort is part of the reason that data visualization is so powerful, but the design also needs to support the viewers' ability to make accurate interpretations of what they are seeing.

14. True/False: Data in a visualization must never be sorted based on the importance of the category of the data. **1 / 1 point**

- ( ) True
- (•) False

✓ **Correct**
It's actually the best way to sort the data.

15. Suppose you have a bar graph that has values of 4 and 5. If you start the axis at 0 and increment by 1, then the visual increase between the bars showing 5 and 4 is 25%. See example A: **1 / 1 point**



What would the visual increase be between the bars representing 4 and 5 if you started the axis at 3 and incremented by one? See example B:

- ( ) 12.5%
- ( ) 60%
- ( ) 125%
- (•) 100%

✓ **Correct**
The calculation for the answer is 4 - 3 = 1 and 5 - 3 = 2, so (2 - 1)/1 = 100% or double.

16. Which most closely describes the process of visual encoding? **1 / 1 point**

- ( ) Transposition
- (•) Translation
- ( ) Transcending

✓ **Correct**
Visual encoding translates data into a "visual vocabulary and language" that the human brain is naturally good at perceiving and interpreting.

17. System 2 refers to which type of thinking and responding? 1 / 1 point

- Moderate, methodical, and quantitative
- Fast, intuitive, and emotional
- Slow, deliberate, and logical

Correct

System 2 is the realm of cognitive processing in which people make a focused effort to consider the meaning of what they are seeing. For a visualization to be effectively interpreted, System 1 and System 2, must work together to identify and accurately interpret meaningful patterns.

18. If you had to figure out the sum of all line lengths, that would involve? 1 / 1 point

- Systems 1 and 2
- Only System 1
- Only System 2

Correct

While you might be able to detect the line with the average length in a collection, figuring out the sum of all the line lengths, however, takes the kind of conscious and concerted effort embodied by System 2.