**Assignment: Design and Best Practices**

**Sri Charan – Student Id: 1661666**

**Part 1: Which Gestalt Principle could you use?**

**A graph of a number of people

Description automatically generated**

Fig 1: (Source: Image taken from assignment guidelines page in canvas)

For the graph shown (taken from assignment) above, we can apply multiple gestalt principles. At the current stance, the graph does not depict any relation between text and visuals since they are on same color and tone. It is an audience work to understand the graph, read the text, and find the connection between them. This is a clear indication of cognitive load.

In my perception, above graph can be illustrated way more clearly to connect with the text provided with the help of gestalt principles. As we know there are six principles. For this graph, we can use proximity, similarity, connection, closure. With the help of these principles, we can add pre-attentive attributes like color or font size of the text. Which makes an audience understand the graph easily within a second or two.

**Part 1a: Each of the four charts are properly labeled.**

**Part 1b: Explain the differences between the four graphs:**

**Part 1c: Explain which graph you believe would create the least cognitive load for the audience and why:**

*Match the following:*

|  |  |  |  |
| --- | --- | --- | --- |
| **Chart** | **Gestalt Principles** | **Explanation** | **Cognitive  Load (low [1] to high [4])** |
| Chart A | Proximity | The chart follows proximity principle, but the cognitive load is way high. How? – even though text and visuals are nearby, we still cannot conclude the text belongs to which bar in the chart unless we read the text. Hence, I feel the cognitive load is high.  Difference:   1. Higher amount of cognitive load 2. Hard to understand. | 4 |
| Chart B | Connection plus Similarity | Yes, with the help of color and reference lines we can reduce the cognitive load. But I feel still there is a chance of cognitive load in this chart. how? – audience need to look far distances between bars and text. This gap can constitute cognitive load.  Difference:   1. Lower cognitive load 2. Usage of 2 gestalt principles 3. Use of color as a pre-attentive attribute | 2 |
| Chart C | Similarity | By using only colors, we can see similarity between text and referenced bars. As we illustrated in above point it applies here too, the gap between text and bars is high hence there is a high chance of cognitive load.  For example, summer is mentioned in text but when you look at chart it reflects Jul and Aug. Audience need to look for the months which are colored in AMBER.  Difference:   1. There is a cognitive load not so low 2. Use of color as a pre-attentive attribute | 3 |
| Chart D | Enclosure plus Similarity | Finally, with the usage of enclosure and similarity with the help of color codes. There is a least amount of cognitive load in the chart.  However, this chart does not have good look and feel. Which can be improved by applying proximity principle and other pre-attentive attributes.  Difference:   1. lowest cognitive load 2. Usage of 2 gestalt principles 3. Use of colors as a pre-attentive attribute which makes audience understand quicker. | 1 |

**Part 2: Discuss five colors and how they can impact your visualizations:**

color is one of the most powerful tools you have for drawing your audience’s attention.

1. Color: BLUE

* Emotions: neural or cool color and it has a calming effect on the mind and body
* Cultures: trust, reliability
* Are they warm or cool colors?: Blue is a cool color

1. Color: ORANGE

* Emotions: Joy or happiness, creativity, energy
* Cultures: Spirituality, sacred, royalty and pride
* Are they warm or cool colors?: Orange is a warm color

1. Color: GREY

* Emotions: neutrality, balance, elegance, and formality
* Cultures: negative or sadness associated situations
* Are they warm or cool colors? Grey is a cool color.

1. Color: GREEN

* Emotions: Middle color of VIBGYOR. Calm and relaxation, growth and harmony
* Cultures: luck, positiveness, money
* Are they warm or cool colors?: green is considered as cool

1. Color: YELLOW – Often used for highlighting

* Emotions: happiness, vibrancy, warmth, and comfort
* Cultures: Sunshine, royalty, and prestige
* Are they warm or cool colors?: Yellow is a warm color.

**Part 3: Properties of data:**

|  |  |
| --- | --- |
| **Column** | **Properties** |
| athlete\_id | Nominal |
| athlete\_last\_name | Nominal |
| Weight | Ratio |
| Age | Ratio |
| event\_name | Nominal |
| event\_date | Interval |
| event\_location | Nominal |
| event\_country | Nominal |
| event\_weather | Nominal |
| event\_result | Interval |
| event\_rank | ordinal |
| event\_record | Nominal |
| Notes | Nominal |
| Event\_Temp in C | Interval |
| Event\_Temp in K | Ratio |

**Reference:**

1. Knaflic, C. N. (2015). Storytelling with Data: A data visualization guide for business professionals(C. N. Knaflic, Ed.). John Wiley & Sons. ISBN: 9781119002253