Assignment - 1: Visualization Research

The paper outlines ten key principles that can help scientists improve their visual communication and the reason why the author aims to do this is because in today's world visuals play a big role and has become more important than ever for scientists to create effective visuals as online sharing and software tools have grown exponentially in the past couple of years and one problems with scientists is that they do not present information clearly and they tend to not follow any visualization practices.

The first rule is to figure out what message you want to get across before you start designing the image. Making the right design decisions is aided by having a clear understanding of your message. The second principle suggests that the best software be chosen since good technical advice can improve the image quality. The third principle emphasizes how crucial it is to use effective designs in order to guarantee that the information is understandable.

The fourth principle highlights how crucial it is to purposefully use color in images in order to successfully transmit information. The fifth principle encourages you to show uncertainty in your data since it gives you a more accurate picture of your outcomes. The sixth guideline suggests making data comparisons across different variables or time frames easier by employing small multiples, which are collections of comparable pictures.

Since models frequently require more explanation, the seventh principle focuses on making a clear distinction between raw data, summary data, and models. The eighth principle suggests simplifying the images while including thorough explanations so that the statistics can be understood on their own.

Infographics, which integrate text and visuals to simplify information, are suggested to be taken into consideration by the ninth principle. The tenth principle concludes by advising you to acquire outside input on your images to ensure clarity and efficacy.

The study comes to the conclusion that clear images are still very important, even when scientific journals change. Scientists must produce high-quality figures, and it is crucial that they learn from the tools already in place. Additionally, journals play a part in guaranteeing the accuracy and clarity of the figures. Scientists can enhance their visual communication skills and reduce errors in data interpretation by adhering to these principles.

Midway, S. R. (2020). Principles of effective data visualization. *Patterns*, *1*(9).