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Teaching Visual Design with Self-created Youtube Videos

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Chen, Fang, "Teaching Visual Design with Self-created Youtube Videos" (2022). *AMCIS 2022 TREOs*. 3. https://aisel.aisnet.org/treos_amcis2022/3

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Teaching Visual Design with Self-created Youtube Videos

TREO Talk Paper

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Abstract

Teaching data visualization consists of two parts: how to create visuals with a particular tool, and how to design the effective visuals. There are a variety of tools that instructors can use, but the most widely used are: Power BI, Tableau, Python, R, and Excel. The effective visual design principles are universal, and the skills of using the tools are particular to each tool, even though some of the skills/knowledge are transferrable. Regardless of the teaching tools or design principles, the most effective way to teach visualization is through hands on exercises with a variety of examples. Videos and live demonstrations are the most effective way to teach data visualization, because they support multi-sensory learning. People use three primary perceptual modalities for learning: visual (learning by seeing), aural (learning by hearing), and kinesthetic (learning by doing) (James & Galbraith 1985; Wislock 1993). Videos are better than live demonstrations, because students can get lost during live demonstration, and the demonstrator has to wait and clarify. Videos, on the other hand, provide the flexibility of pausing, rewinding, and replay. More importantly, students can watch videos anytime and anywhere. As a result, overall, video is better than live demonstrations.

I started to create my own Youtube videos with a lab instructor for my classes, over the years, I created (or took the lead to create) Youtube videos for Power BI, R, and Excel. When I designed hands-on exercises, I would ask students to follow our Youtube video demonstration first, then I would give them several other tasks that are not in the Youtube demonstrations. Students learned very quickly in this way, and the benefit of this approach is that all other instructors who teach the same class can use the same Youtube videos, it is very cost effective to develop once, and use it for multiple times. I will share my experiences of creating Youtube videos and integrating them into my teaching at the conference. The following lists two Youtube videos that we have created. The Youtube link for the first one is: <https://youtu.be/WOWFw-tOW3Y>.

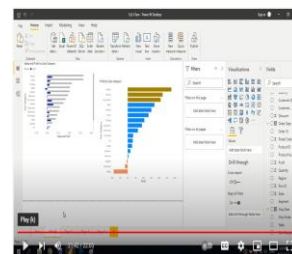


Figure. Youtube Videos

References:

James, W.B. and Galbraith, M.W. 1985. "Perceptual Learning Styles: Implications and Techniques for the Practitioner", *Lifelong Learning*, 8, 20-23.

Wislock, R.F. 1993. "What Are Perceptual Modalities and How Do They Contribute to Learning?" in *Applying Cognitive Learning Theory to Adult Learning* (D.D. Falnery, Ed), pp. 5 – 13, Jossey-Bass Publishers, San Francisco.