Lecture 19 – Building a Visual Narrative

Today's Learning Objectives:

1. Describe the process of creating a visual narrative.

2. List four critical considerations in creating a presentation.

3. Describe the ways in which you can reduce the cognitive load on your audience.

4. Create an ordered list for editing presentations.
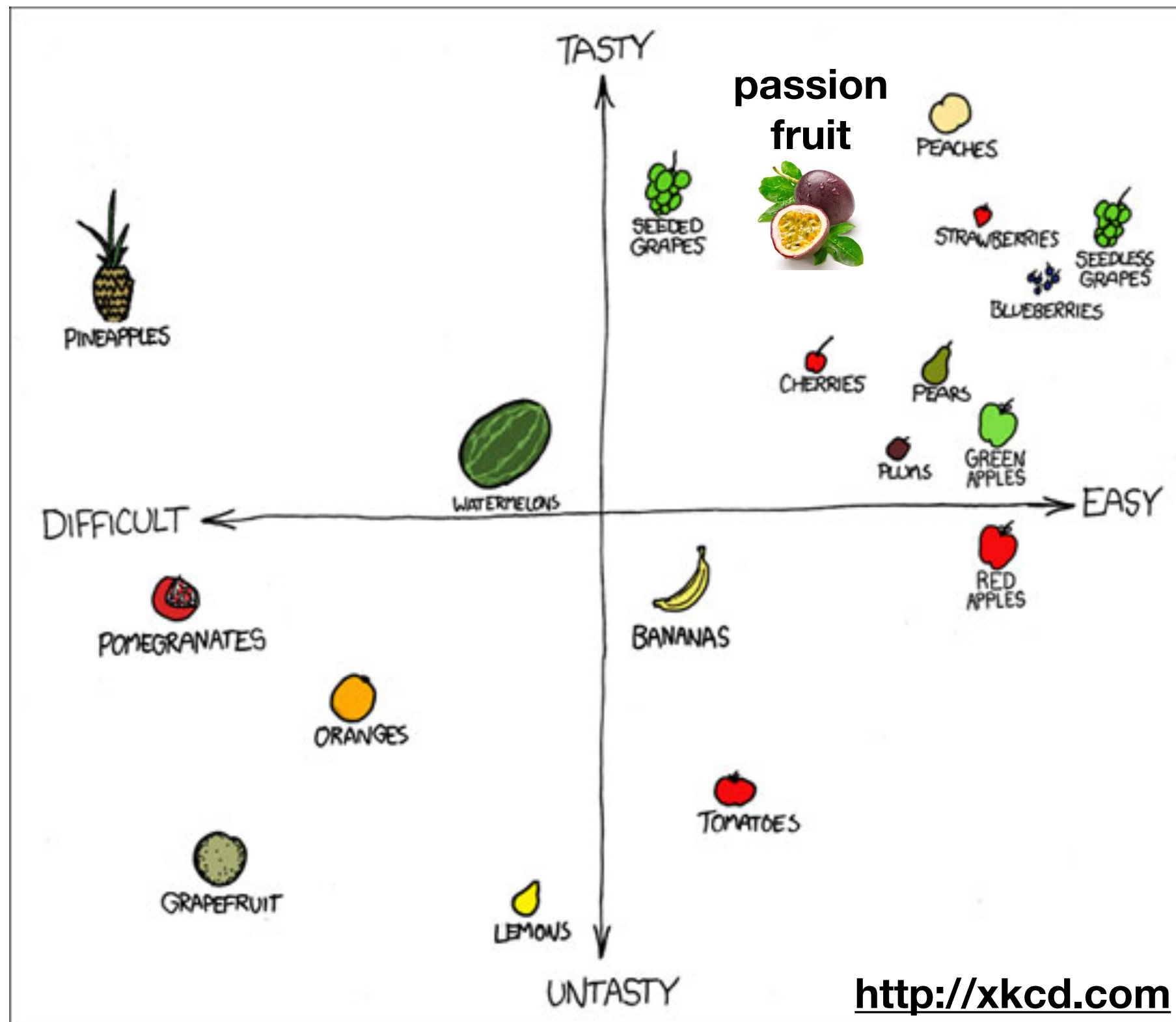
Considerations for Building a Presentation

1. Take-away message

2. Background and knowledge of audience

3. Methods of communication available

4. Audience Attention

Process of Building a Visual Narrative

Creation

feedback

Editing

Final product
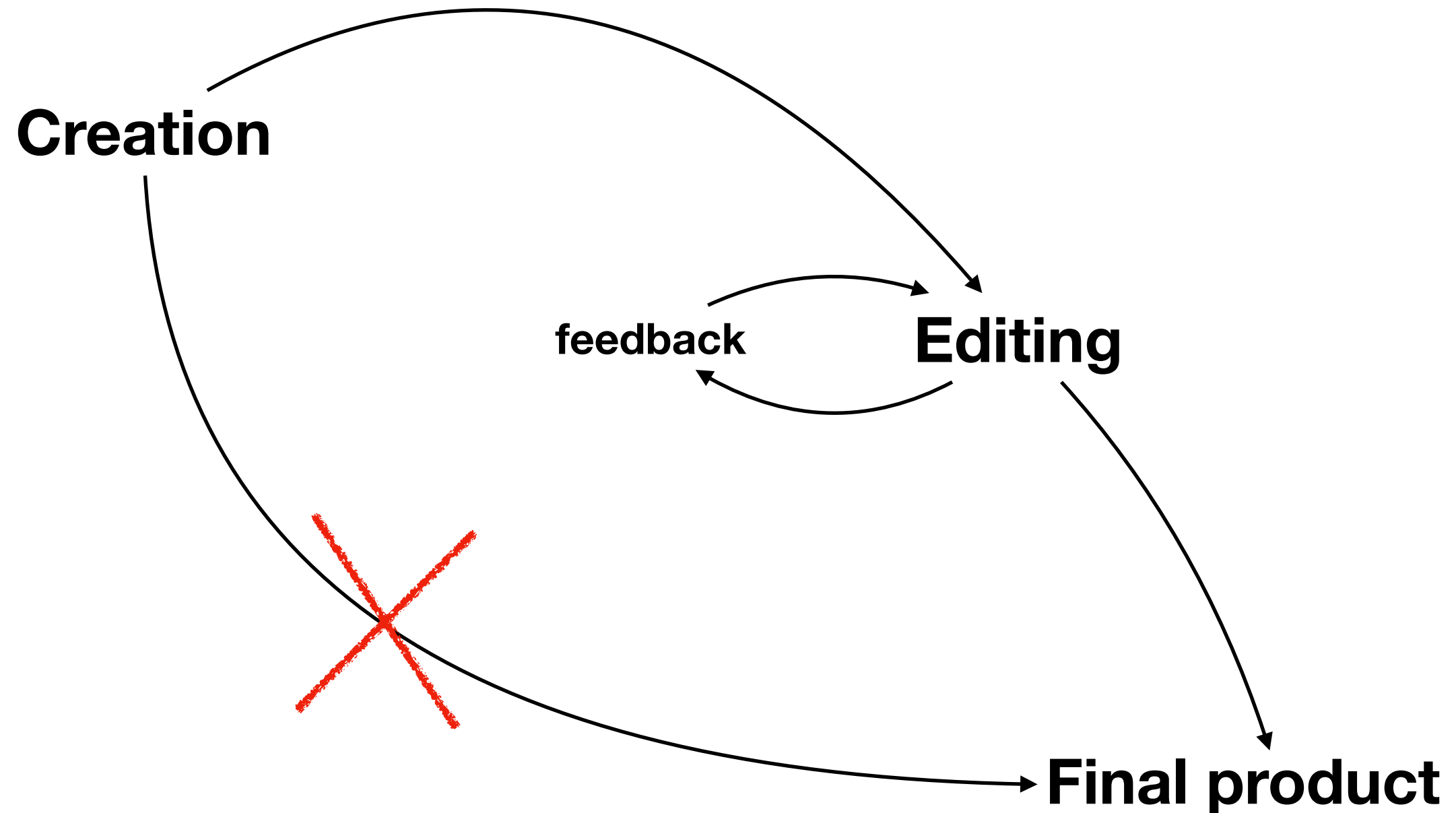
1. What is the take-away message?
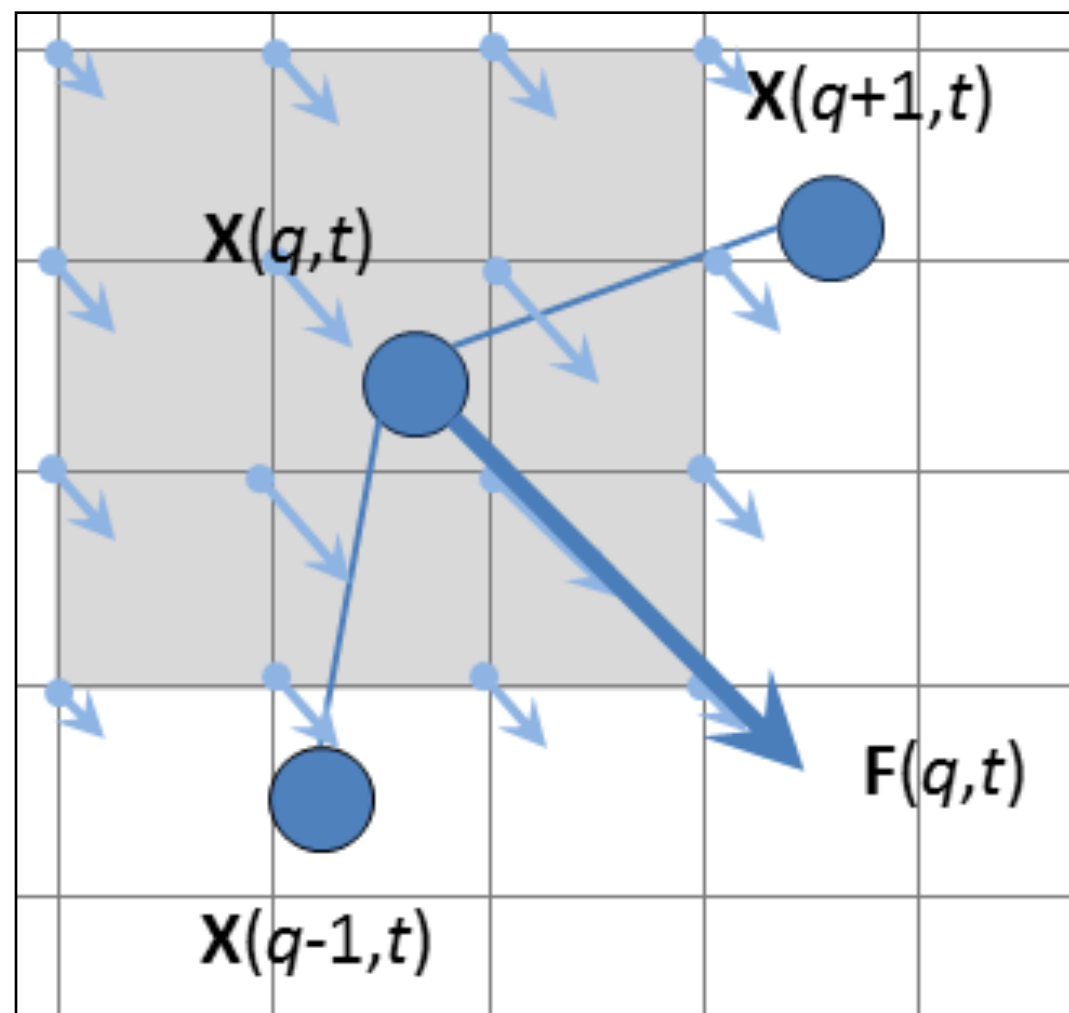
2. Background and Knowledge of Audience

What knowledge do you have to have to understand this graph?

Modeling fluid flow with IBM

$$\rho(\mathbf{u_t}(\mathbf{x}, t) + \mathbf{u}(\mathbf{x}, t) \cdot \nabla \mathbf{u}(\mathbf{x}, t)) = -\nabla p(\mathbf{x}, t) + \mu \nabla^2 \mathbf{u}(\mathbf{x}, t) + \mathbf{F}(\mathbf{x}, t)$$
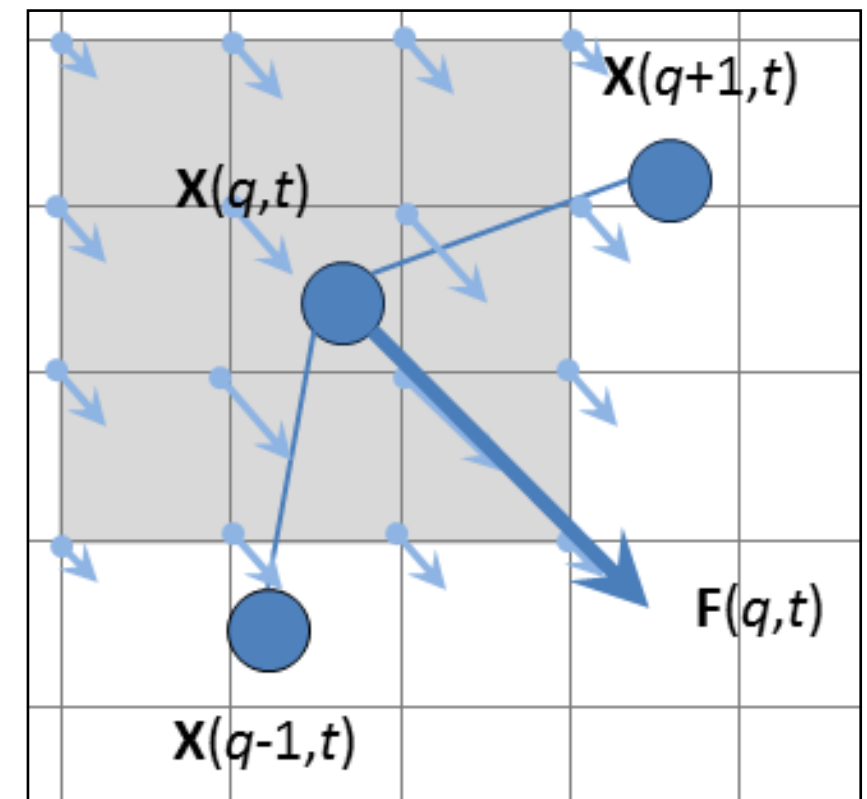
$$\nabla \cdot \mathbf{u}(\mathbf{x}, t) = 0$$

Direct solution of Navier-Stokes equations at all points on the Eulerian grid.

Force of Lagrangian boundary spread to Eulerian grid by Dirac δ-function.

Fully coupled method for simulating fluid-structure interactions.

Peskin (2002)

What was wrong with that slide?

(What isn't?)

Things you don't understand:

Eulerian grid

Navier-Stokes equations

Useless diagram

Lagrangian boundary

Any of the variables in the equations

δ-function

IBM??

Knowledge Transfer: FAIL

The False-Belief Test
in Children

~~M&M~~'s

(Ribbons)

Ribbons

False belief
or "Curse of Knowledge"

The False-Belief Test in Academics

Presenter

Audience member

"I use math to solve this fluids problem, therefore anyone can understand what I do."

(Has no experience with modeling fluids, doesn't understand presentation.)

The False-Belief Test in Academics

Presenter

Audience member

:(

:(

Avoiding the Curse of Knowledge

Presenter

How much should I assume my audience knows, and how much should I explain?

How do you transfer knowledge adequately?

Avoid the "Curse of Knowledge"

Know your audience!

3. What methods of communication are available?

Poster session

Conference talk

Online lecture

Scientific publication

How will my audience be engaging?

4. Where is your audience's attention? Cognitive load?

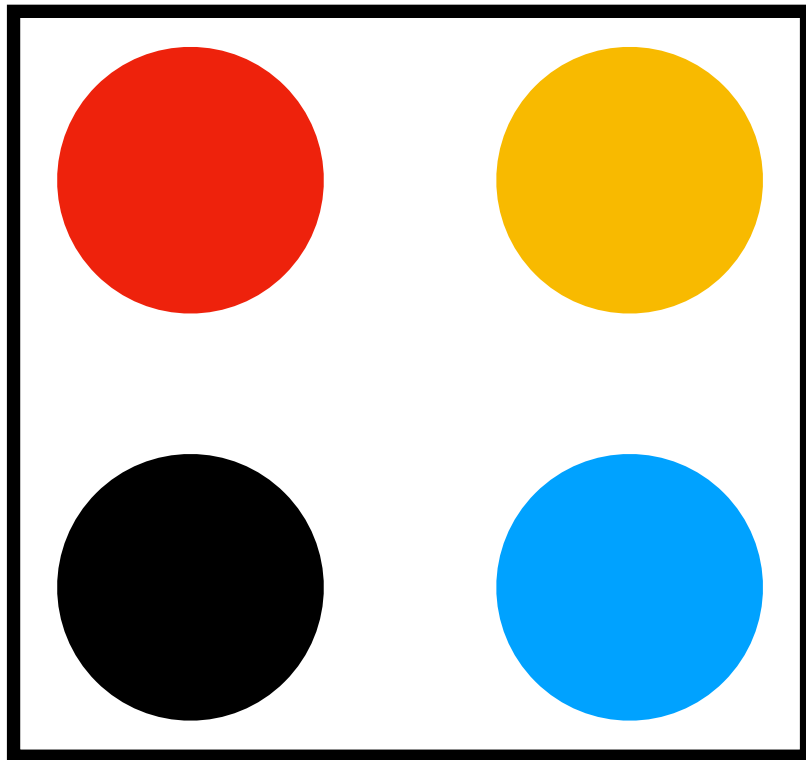**Say same thing as visual**

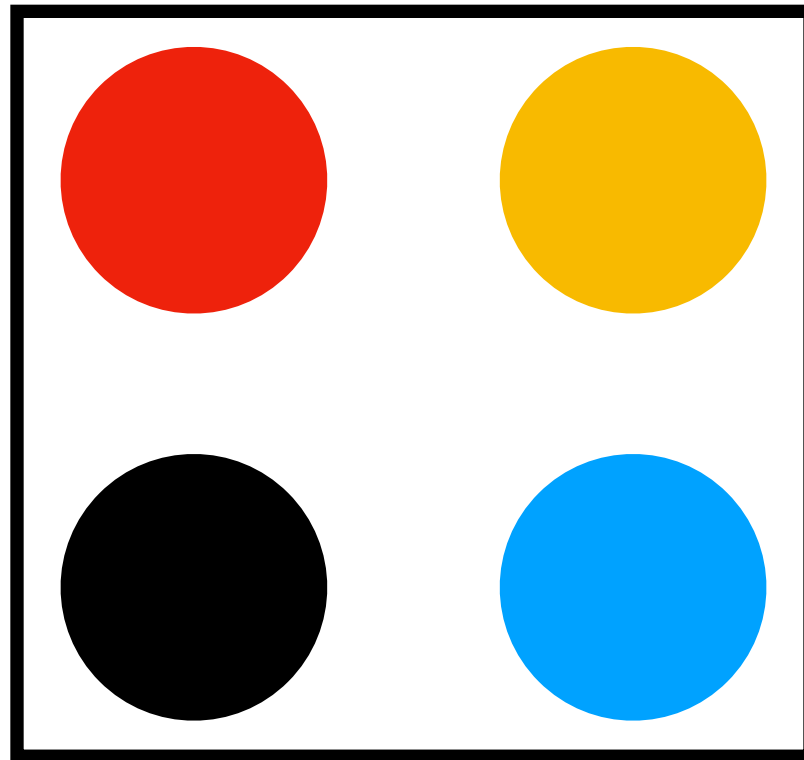**Verbal and visual different**

Verbal and visual different

Yellow

Red
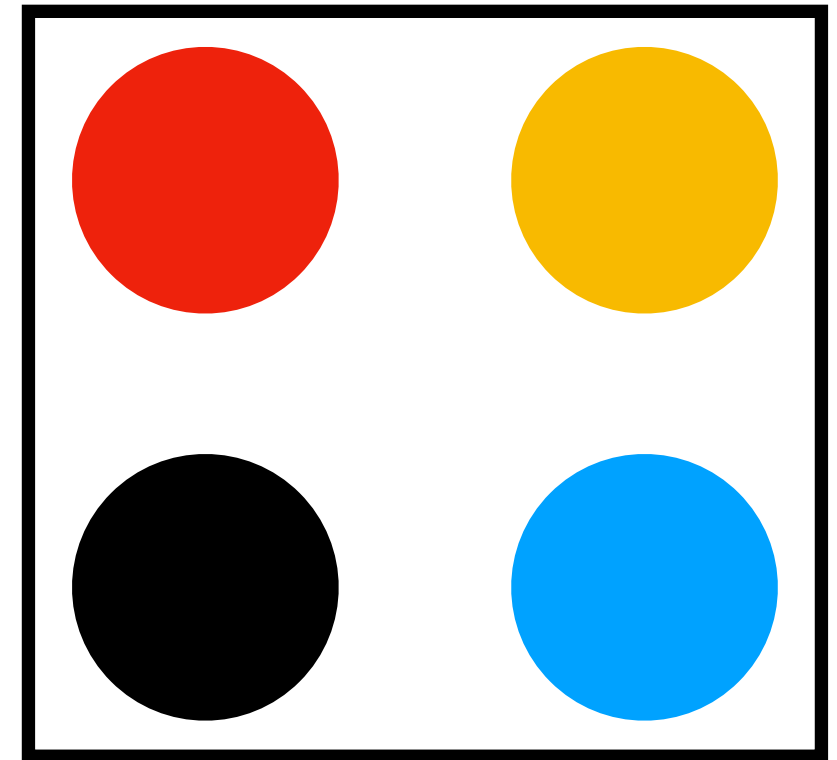
Black

Shortest

Longer

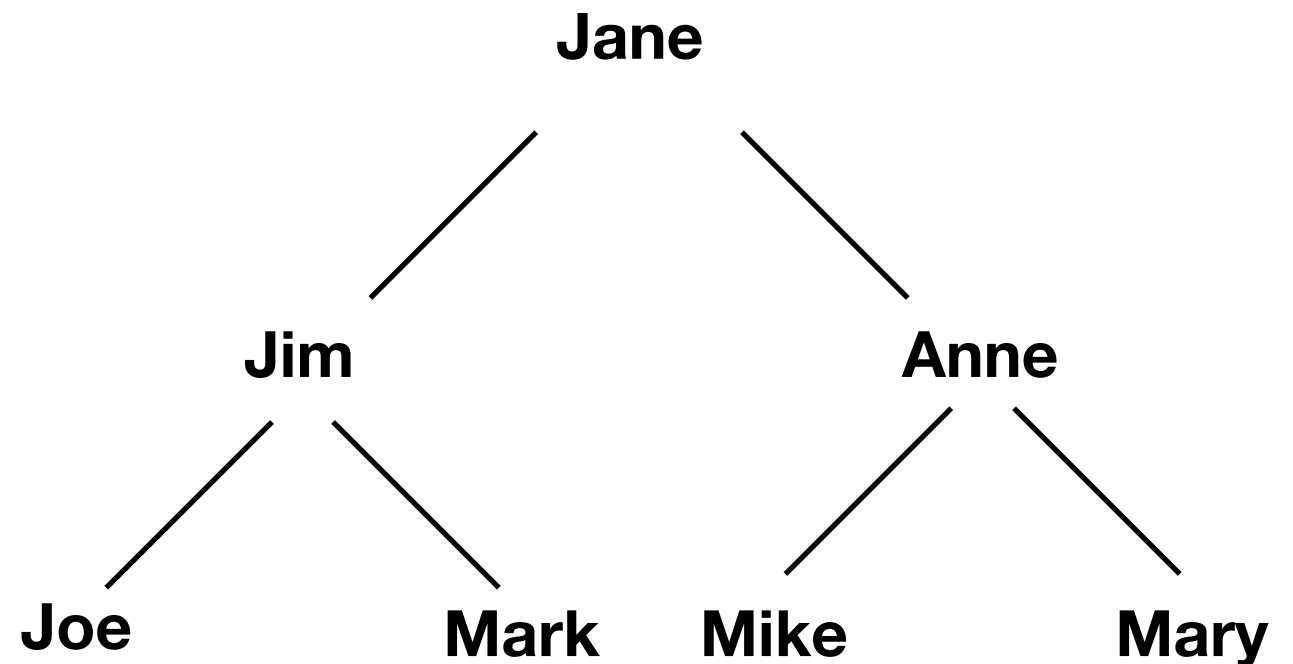Longest

Visual and Verbal Components

Jane is Jim's boss.

Jim is Joe's boss.

Anne works for Jane.

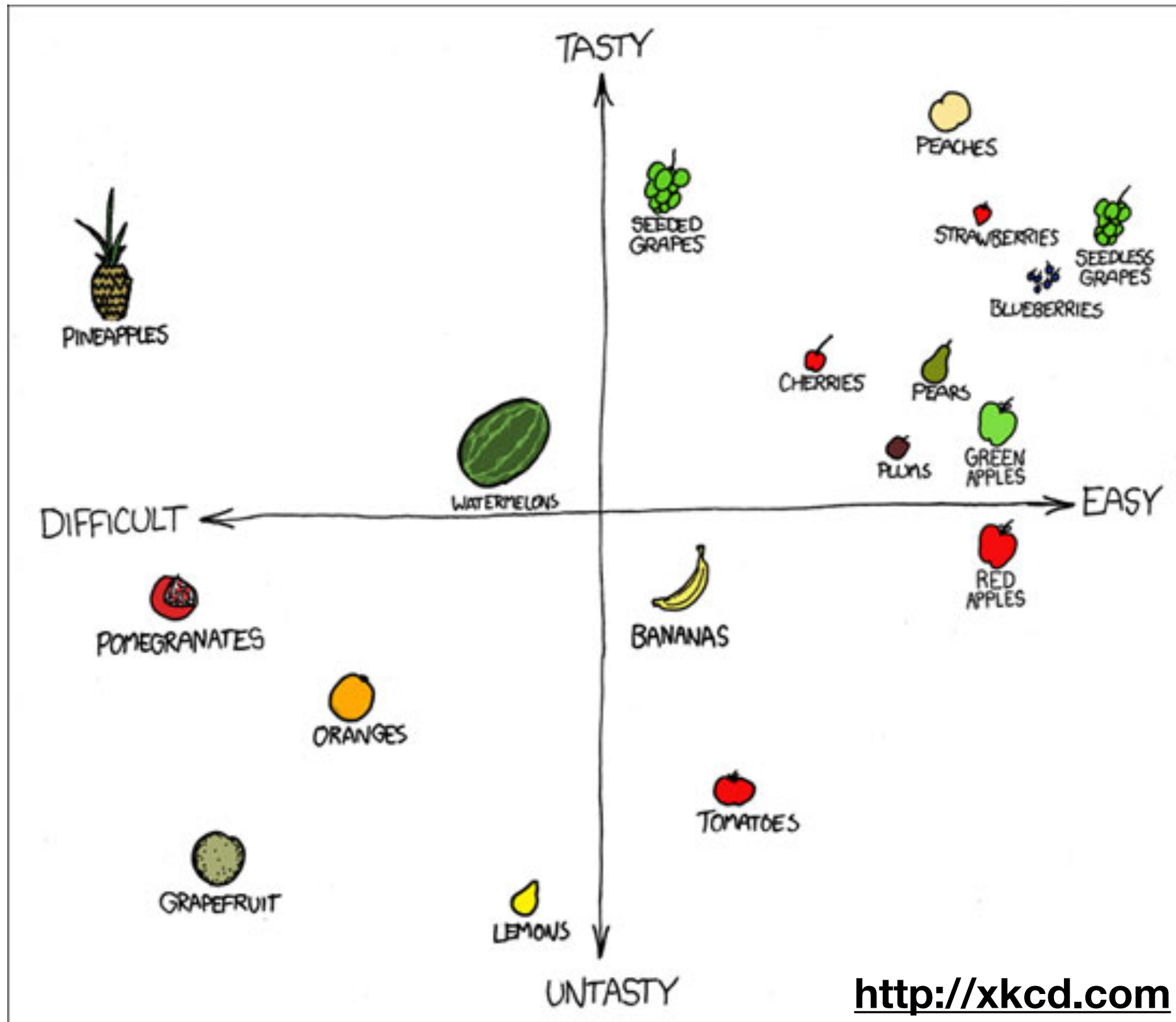Mark works for Jim.

Anne is Mary's boss.

Ann is Mike's boss.

Linking Visual and Verbal components

http://xkcd.com

Group work: Ordered Editing List

Create your own editing list based on the information you've learned in the course so far. This could include everything from design guidelines on visual objects to presentation guidelines. Order them from the most broad aspects (overall organization, answering the question) to the more specific (aesthetics, when to use gestures, etc). At each step, edit for take-away message. In the later steps, make sure to edit for cognitive load.