

What to look for in good instructional representations

From Andrew S. Gibbons

- 1) Contrast
 - a. Saliency
 - b. Proportion
 - c. Comparability
 - d. New information
 - e. Clarity
 - f. Aesthetic
- 2) Framing
 - a. Window
 - b. Point of view
 - c. Orientation
 - d. Scan
 - e. Metaphorical
- 3) Structure
 - a. Layout (Proximity/grouping; Relation; Functional differentiation; Symmetry; Simplification)
 - b. Sequence
 - c. Direction
 - d. Hierarchy/network
 - e. Discoverable purpose
- 4) Trace
 - a. Dimensionality
 - b. Layering
 - c. Transparency/hiding
 - d. Dynamism
 - e. Timing
 - f. Navigability
- 5) Symbol
 - a. Universality
 - b. Interpretability
 - c. Emotional value
- 6) Story
 - a. Narrative arc
 - b. Development (Scene; Structure)
- 7) Question
 - a. Anomaly
 - b. Invitation
- 8) Access
 - a. Pace control
 - b. Speed control
 - c. Focus control (Zoom; Pan; Repeat Control)
- 9) Inter-media coordination (Synchrony; Interference/complementarity/echo; Style)

From Ruth Colvin Clark and Richard E. Mayer

- 1) Use words and graphics rather than words alone
- 2) Place corresponding words and graphics near each other
- 3) Present words as audio narration rather than onscreen text
- 4) Presenting words in both text and audio narration can hurt learning
 - a. Avoid presenting words as narration and identical text in the presence of graphics
 - b. Consider the narration of onscreen text in special situations
- 5) Adding interesting material can hurt learning (NOTE from Dr. McDonald: I disagree with this as a blanket recommendation)
 - a. Avoid extraneous sounds
 - b. Avoid extraneous pictures
 - c. Avoid extraneous words
- 6) Use conversational style