12 Principles of Multimedia

If you are designing a video, animation, textbook, ebook, powerpoint presentation, or online lesson applying these multimedia principles will improve the learning experience. In the handbook Multimedia Learning (Cambridge Press, 2001), Richard E. Mayer discusses twelve principles that shape the design and organization of multimedia presentations. These principles depend upon 3 main questions:

Media Effects
      Is one medium better than another? (i.e.; video versus text)
Multimedia Effects
      Is multimedia instruction effective? (i.e.; Single versus multiple representations)
Interaction Effects
      For whom is multimedia effective (i.e.; low prior knowledge versus high prior knowledge learners)

1. Coherence Principle – People learn better when extraneous words, pictures and sounds are excluded rather than included.
2. Signaling Principle – People learn better when cues that highlight the organization of the essential material are added.
3. Redundancy Principle – People learn better from graphics and narration than from graphics, narration and on-screen text. And when words are presented as narration rather narration and on-screen text.
4. Spatial Contiguity Principle – People learn better when corresponding words and pictures are presented near rather than far from each other on the page or screen.
5. Temporal Contiguity Principle – People learn better when corresponding words and pictures are presented simultaneously rather than successively.
6. Segmenting Principle – People learn better from a multimedia lesson is presented in learner-controlled segments rather than as continuous unit.
7. Pre-training Principle – People learn better from a multimedia lesson when students know names and behaviors of system components.
8. Modality Principle – People learn better when words are presented as narration rather than as
on-screen text.
9. Multimedia Principle – People learn better from words and pictures than from words alone.
10. Personalization Principle – People learn better from multimedia lessons when words are in conversational style rather than formal style.
11. Voice Principle – People learn better when the narration in multimedia lessons is spoken in a friendly human voice rather than a machine voice.
12. Image Principle – People <u>do not</u> necessarily learn better from a multimedia lesson when the speaker's image is added to the screen.