



## 12 Principles of Multimedia Learning

1. **Coherence Principle** – People learn better when extraneous words, pictures and sounds are excluded.
2. **Signaling Principle** – People learn better when cues that highlight the organization of the essential material are added; visual cues.
3. **Redundancy Principle** – People learn better from graphics and narration than from graphics, 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 if presented in user-paced segments rather than as a continuous unit; chunking.
7. **Pre-training Principle** – People learn better from a multimedia lesson when they know the names and characteristics of the main concepts.
8. **Modality Principle** – People learn better from graphics and narrations than from animation and 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 natural, friendly human voice rather than a machine voice.
12. **Image Principle** – People do not necessarily learn better from a multimedia lesson when the speaker's image is added to the screen.