

## 12 Principles of Multimedia Learning

### Facilitating Generative Processing

<b>Principle</b>	<b>Application</b>
Multimedia	Present words and images rather than words alone.
Personalization	Use conversational speech rather than formal speech when presenting.
Voice	Present speech with natural human voice rather than a computerized one.
Image	Include speaker's image on the screen.

### Managing Essential Processing

<b>Principle</b>	<b>Application</b>
Segmenting	Present lessons in user-paced segments rather than in one long, continuous unit.
Pre-Training	Start lesson by providing an overview of the critical components to be taught.
Modality	Use images and spoken words rather than images and written words when presenting lesson.

### Minimizing Extraneous Processing

<b>Principle</b>	<b>Application</b>
Coherence	Delete extraneous words, sounds or images.
Signaling	Highlight important terms and images.
Redundancy	Remove redundant captions from narrated animation.
Spatial contiguity	Position critical terms next to images.
Temporal contiguity	Present corresponding words and images simultaneously.

Based on Mayer, R. E. (2001). *Multimedia Learning*. New York: Cambridge University Press.