

Multimedia Principles (Mayer 2020)

For eLearning, online lesson; video; animation; workbook; eBook; PowerPoint, etc., application of these principles will optimise the learning experience:

1. Coherence Principle: People learn better when extraneous material is excluded rather than included.

2. Signaling Principle: People learn better when cues are added that highlight the organization of the essential material.

3. Redundancy Principle: People do not learn better when printed text is added to graphics and narration.

People learn better from graphics and narration than from graphics, narration and printed text, when the lesson is fast paced.

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 when a multimedia lesson is presented in user-paced segments rather than as continuous unit.

7. Pre-training Principle: People learn better from a multimedia lesson when they know names and characteristics of the main concepts.

8. Modality Principle: People learn better from graphics and narration than from graphics 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 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.

13. Embodiment principle: People learn more deeply from multimedia presentations when an onscreen instructor displays high embodiment rather than low embodiment.

14. Immersion principle: People do not necessarily learn better in 3D immersive reality than with a corresponding 2D desktop presentation.

15. Generative activity principle: People learn better when they are guided in carrying out generative learning activities during learning.

From: **Multimedia Learning 3rd Ed** (Cambridge Press, 2020), Richard E. Mayer.