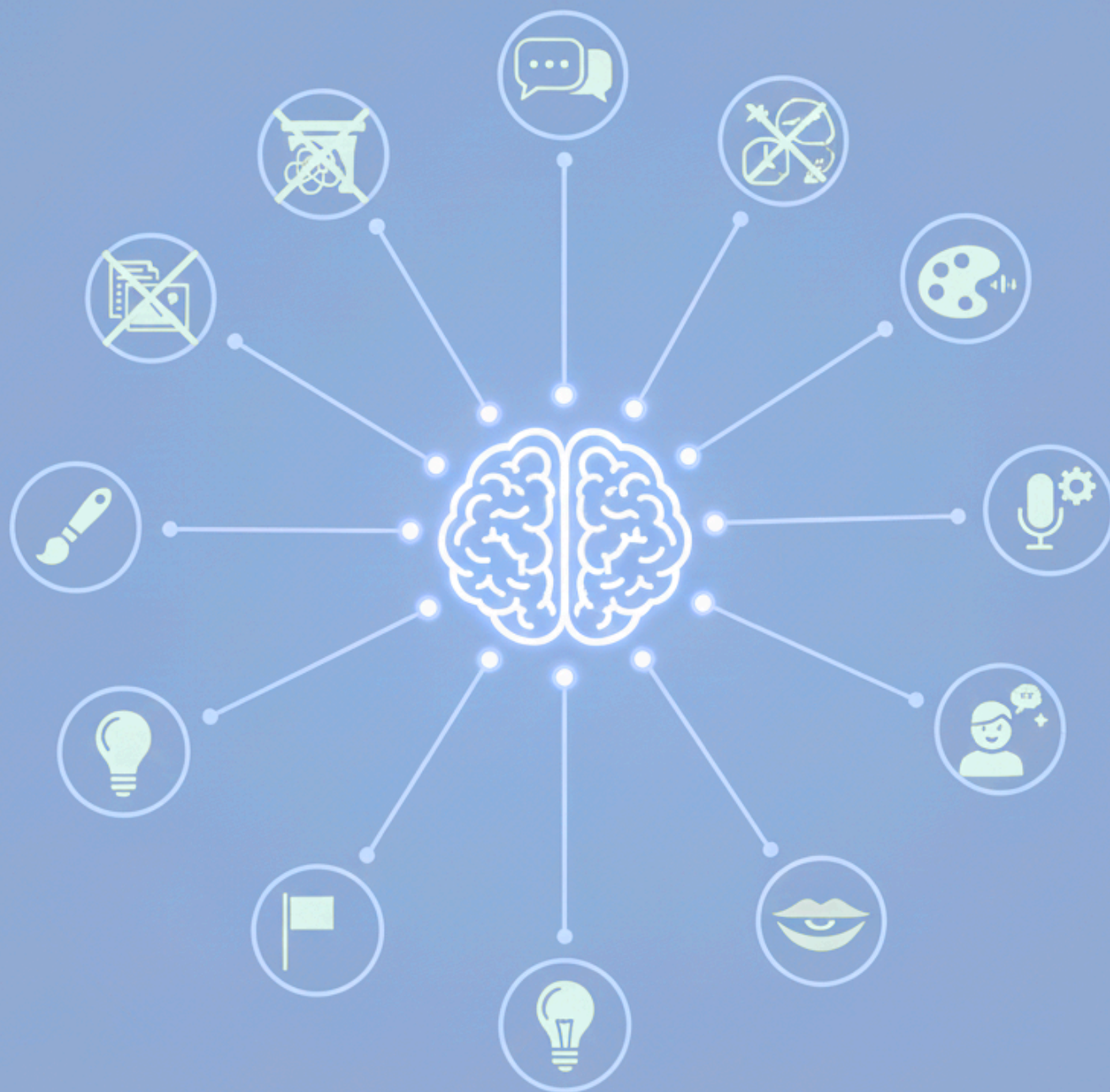


Mayer's 12 Principles of Multimedia Learning

How to design learning that actually works



Why These Principles Matter

Good design is not decoration

- Learners have limited cognitive capacity
- Poor design increases overload
- Mayer's principles help learners:
 1. Understand faster
 2. Retain longer
 3. Apply better

Backed by decades of research

Principle 1 – Coherence

Remove what doesn't help learning

- Exclude unnecessary words
- Avoid decorative images
- Remove background music

Less clutter = better understanding

Principle 2 – Signaling

Guide the learner's attention

- Use headings
- Highlight key points
- Add visual cues

Tell learners what matters most

Principle 3 – Redundancy

Avoid saying the same thing twice

- Don't read text verbatim on screen
- Use narration instead of on-screen text (not both)

Let visuals + audio work together

Principle 4 – Spatial Contiguity

Place related elements close together

- Text near visuals
- Labels near diagrams

Reduces mental searching

Principle 5 – Temporal Contiguity

Synchronize words and visuals

- Explain visuals while showing them
- Avoid long delays between explanation and display

Timing matters for comprehension

Principle 6 – Segmenting

Break content into learner-controlled chunks

- Short sections
- Click-to-continue
- Pause between ideas

Small pieces = better processing

Principle 7 – Pre-training

Introduce key concepts first

- Define terms early
- Explain roles or components before the main lesson

Prepares learners for deeper understanding

Principle 8 – Modality

Use audio for words when visuals are present

- Narration + visuals > text + visuals
- Reduces overload on visual channel

Balance cognitive channels

Principle 9 – Multimedia

Words + pictures beat words alone

- Use diagrams
- Use relevant visuals
- Avoid text-only slides

Learning is stronger when visuals support meaning

Principle 10 – Personalization

Use a conversational tone

- Use “you” and “we”
- Sound human, not academic

People learn better from people

Principle 11 – Voice

Choose a natural human voice

- Avoid robotic or synthetic voices
- Neutral, friendly tone works best

Voice influences engagement and trust

Principle 12 – Image

Instructor image is optional

- Seeing the speaker doesn't always improve learning
- Use instructor visuals only when they add value

Purpose over presence

Key Takeaway

Design for the brain, not the slide

- ✓ Reduce cognitive load
- ✓ Focus attention
- ✓ Support understanding

Mayer's principles turn content into learning.