Multimedia Principles

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How to use this document?

This document describes what are multimedia principles along with contrasting examples.

For each principle there is a:
• general introduction about that principle
• suggestions for effective implementation and
• contrasting examples

More details can be found in reference list provided at the end.
Who should use it?

It will be useful to follow these principles if you are designing any multimedia content or technology enhanced learning environments.

Especially if you are:
• Instructional Designer, Graphic Designer or software developer and developing multimedia for education OR
• Teacher or Trainer who has to choose multimedia for classroom activity OR
• Researcher who has to study psychology of learning with multimedia content.
Why Multimedia principles?

People learn more deeply from words and graphics than words alone (Mayer 2016). Multimedia principles help to integrate words and graphics effectively. By multimedia we mean multiple media or combination of media. At least some visuals and some text.

E.g.: Words (printed or spoken text) and pictures (illustrations, or photos).

Examples of Multimedia

Instructional material:
- Instructional software- tutorials, simulations
- Language labs
- Games
- Interactive e-books

Authoring tools:
- Presentation software : Microsoft Powerpoint/ Impress, Prezi
- Video/animation/audio production and editing
- Game authoring environment
Multimedia Principle

Include both words and graphics

**TEXT ONLY:**
As the rod is pulled out, air passes through the piston and fills the area between the piston and the outlet valve. As the rod is pushed in, the inlet valve closes and the piston forces air through the outlet valve.

Modality Principle

Use audio to explain visuals instead of on-screen text

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Contiguity Principle

In case audio is not available, place printed words near corresponding graphics. Synchronize spoken words with graphics.

Redundancy Principle

Explain visuals with narrated audio OR on-screen text, not both.

Coherence Principle

Avoid multimedia lessons with extraneous graphics or sounds.

Eg: If the objective is to show blood flow in heart, realistic & rich representation of heart may not be necessary. A structural representation showing different parts might be sufficient.
Personalization Principle

- Use conversational style rather than formal style
- Use human voice rather than machine voice
- Use on-screen coaches or pedagogical agents
- Use indirect speech v/s direct speech
Segmentation Principle

Break a continuous lesson into smaller segments.

Some suggestions:

- Break a lesson into pieces, or segments
- Avoid long clips of continuous narration
- Provide a ‘Click Continue’ button to go between segments
- Provide control to learner on pacing - pause/play
References

1. A book on multimedia principles

2. A book on multimedia principles

3. Slides from Mayer