

# Multimedia Design Principles

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## Less is more

- Extra information (e.g., on-screen text, irrelevant images) can reduce learning.
- Adapt to the limits of working memory. Learners can absorb only a few ideas at a time.
- Resist student preferences. Students think that copying text equals learning.
- Place notes to copy only at the end of a topic and provide silence while students copy.

## Redundancy Principle

Students can't learn when there's duplication of information. Redundant information leads to less learning.

Verbal redundancy= saying word-for-word what is on the screen

**Why?** The brain has to process the same verbal information twice, coming in the ear and the eye. The brain tires and tunes out.

### Tips

• Avoid excessive text and bullet points on the screen

## Segmentation Principle

Students remember best when complex ideas are broken down into steps or parts and build up progressively.

**Why?** The brain can process only one or two pieces of new information at a time. It needs time to consolidate new information before absorbing more.

### Tips

• Break complex concepts into steps/parts.  
• Present one step/part per screen.

## Contiguity and Split Attention Principles

Students remember best when related details are placed close to each other. Students learn poorly when they have to split their attention between multiple sources (and places) of information.

**Why?** Attention is divided between disparate sources of information, making it more difficult to link important concepts.

### Tips

• Place labels as close as possible to the objects. (spatial contiguity)  
• Show images and provide related explanations at the same time. (temporal contiguity)

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