

# The Modality Principle

## Theory

**The modality principle**<sup>1)</sup> claims that learning will be enhanced if presenting textual information in an auditory format, rather than in visual format, when it is accompanied with other visual information like a graph, diagram or animation.<sup>2)</sup>

The idea for this principle comes from Baddeley's [working memory model](#) in which information can be retrieved simultaneously through two channels: verbal and visual. **Using both channels can enhance learning** since spoken text then occupies only verbal channel leaving visual channel free to process other visual information.

## Practice

The modality principle suggests **texts** should be presented **in audio format** (in case it is accompanied with other visual information).

## Research status

A recent meta-research has examined results of 43 studies and confirmed that<sup>3)</sup>:

- Modality effect can be used to enhance learning
- Strength of the modality effect is moderated by the **level of element interactivity** of the materials.
- Strength of the modality effect is moderated by the **presentation pacing**: effect is stronger for system-paced materials, and weaker for self-paced materials<sup>4)</sup>.

<sup>1)</sup>

Tindall-Ford, S., Chandler, P. and Sweller, J. When two sensory modes are better than one. *Journal of Experimental Psychology: Applied*, 3(4), 257-287. 1997.

<sup>2)</sup>, <sup>3)</sup>

Giins, Paul. Meta-analysis of the modality effect. *Learning and Instruction* 15, no. 4: 313-331. August 2005.

<sup>4)</sup>

See also: Witteman, M.J., and E. Segers. The modality effect tested in children in a user-paced multimedia environment. *Journal of Computer Assisted Learning* 26, no. 2: 132-142. 2010.

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