

The Modality Principle

Theory

The modality principle¹⁾ 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.²⁾

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 therefore 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 that³⁾:

- 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 materials⁴⁾.

¹⁾

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.

²⁾, ³⁾

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

⁴⁾

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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