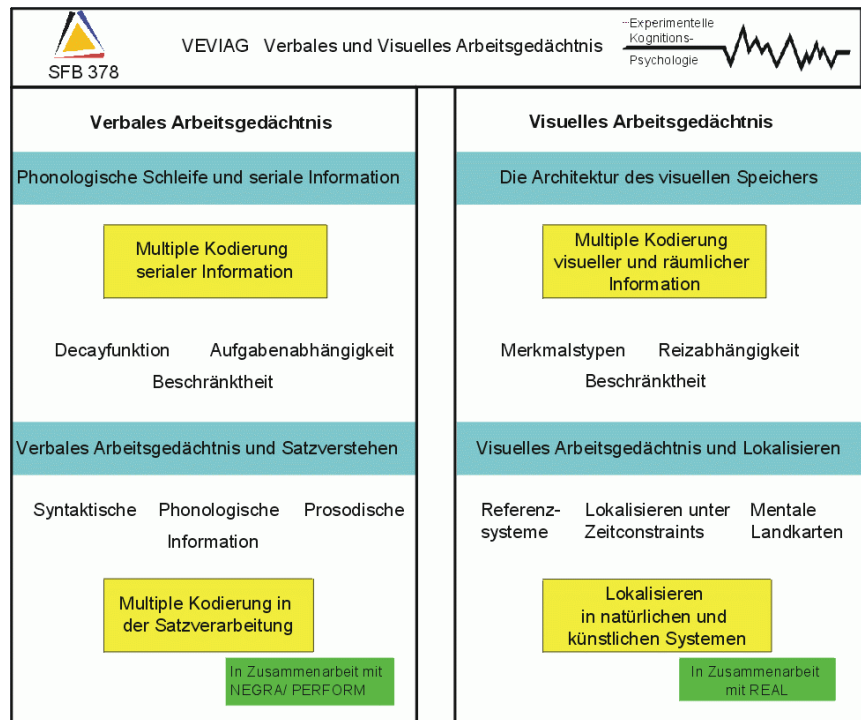




VEVIAG: Verbal and Visual Working Memory

On the basis of results from experimental psychology as well as from neuropsychology, it is commonly assumed that many cognitive performances are caused by specific processing modules. These modules are dedicated to specific functions and they have specific constraints. Some of these modules store information for short term, for further processing. These latter modules are called working memory. From the perspective of limited resources, it is important that working memories are considered as being limited in their abilities.



In order to understand the reasons for these limitations and in order to adapt offered information to subjects' limitations, it is necessary to know which modules exist, and what are their constraints. In VEVIAG we want to answer this task for two central components: the verbal and the visual working memory. It is our aim to disclose the architecture of these components.

Our experiments should reveal, (a) what types of information are represented, (b) whether the different types of information are independent of each other or not, (c) to what extent the modules are limited in the number of represented elements and in time limitations, and (d) which specific tasks require which system.

For verbal working memory, the topic is phonological, syntactic and prosodic information, and their use of short-term remembering of verbal surface information of read or heard sentences (together with project NEGRA). In terms of the function, memory for serial temporal information and the kind of memory access is of interest.

For visual working memory, we are interested in distinguishing between visual, but not spatial information (e.g., color) on the one hand, and spatial information on the other hand, as well as discerning different components within spatial memory. Regarding the function, the tasks of interest are: memory for positions, spatial localization (together with the project REAL) and the acquisition of spatial knowledge, e.g., by studying geographical maps.



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