

The Involvement of Visual and Verbal Representations Within a Quantitative and Qualitative Visual Change Detection Paradigm

Authors : Laura Jenkins, Tim Eschle, Joanne Ciafone, Colin Hamilton

Abstract : An original working memory model suggested the separation of visual and verbal systems in working memory architecture, in which only visual working memory components were used during visual working memory tasks. It was later suggested that the visuo spatial sketch pad was the only memory component at use during visual working memory tasks, and components such as the phonological loop were not considered. In more recent years, a contrasting approach has been developed with the use of an executive resource to incorporate both visual and verbal representations in visual working memory paradigms. This was supported using research demonstrating the use of verbal representations and an executive resource in a visual matrix patterns task. The aim of the current research is to investigate the working memory architecture during both a quantitative and a qualitative visual working memory task. A dual task method will be used. Three secondary tasks will be used which are designed to hit specific components within the working memory architecture – Dynamic Visual Noise (visual components), Visual Attention (spatial components) and Verbal Attention (verbal components). A comparison of the visual working memory tasks will be made to discover if verbal representations are at use, as the previous literature suggested. This direct comparison has not been made so far in the literature. Considerations will be made as to whether a domain specific approach should be employed when discussing visual working memory tasks, or whether a more domain general approach could be used instead.

Keywords : semantic organisation, visual memory, change detection

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