

## Effect of Semantic Relational Cues in Action Memory Performance over School Ages

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**Abstract :** Research into long-term memory has demonstrated that the richness of the knowledge base cues in memory tasks improves retrieval process, which in turn influences learning and memory performance. The present research investigated the idea that adding cues connected to knowledge can affect memory performance in the context of action memory in children. In action memory studies, participants are instructed to learn a series of verb-object phrases as verbal learning and experience-based learning (learning by doing and learning by observation). It is well established that executing action phrases is a more memorable way to learn than verbally repeating the phrases, a finding called enactment effect. In the present study, a total of 410 students from four grade groups—2nd, 4th, 6th, and 8th—participated in this study. During the study, participants listened to verbal action phrases (VTs), performed the phrases (SPTs: subject-performed tasks), and observed the experimenter perform the phrases (EPTs: experimenter-performed tasks). During the test phase, cued recall test was administered. Semantic relational cues (i.e., well-integrated vs. poorly integrated items) were manipulated in the present study. In that, the participants were presented two lists of action phrases with high semantic integration between verb and noun, e.g., “write with the pen” and with low semantic integration between verb and noun, e.g., “pick up the glass”. Results revealed that experience-based learning had a better results than verbal learning for both well-integrated and poorly integrated items, though manipulations of semantic relational cues can moderate the enactment effect. In addition, children of different grade groups outperformed for well- than poorly integrated items, in favour of older children. The results were discussed in relation to the effect of knowledge-based information in facilitating retrieval process in children.

**Keywords :** action memory, enactment effect, knowledge-based cues, school-aged children, semantic relational cues

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