Abstract. Beyond point and click, advances in technology are making it possible to interact with multi-media objects in rich and near-realistic ways. Given this possibility, the open question is how such objects and actions might be designed to promote their purposeful use. My research investigates how cognition and perception, as well as individual differences in spatial ability, affect purposeful use of virtual objects in science learning. In addition, it provides insight about the effective design of interactive learning resources.

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