

The post-cognitivist turn in sensory substitution

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Abstract This chapter explores the intersection of postcognitivism and sensory substitution, introducing the concept of affordance within ecological psychology. It posits that the risks associated with expanding the concept of affordance outweigh those of maintaining specificity, which fosters the perception of a direct process. The chapter showcases five devices explicitly embracing a post-cognitivist approach to sensory substitution (enactive or ecological devices). The discussion encompasses three key features for an affordance-based approach to sensory substitution: tactile stimulation contingent on distance to surfaces, the acknowledgment of perception as an active process, and the recognition of perceptual training as a valuable tool for enhancing perceptual learning. The chapter culminates in a proposal outlining how affordances substantiate a sensory substitution approach that surpasses mere functional replacement of sensory modalities. This proposal is also intricately linked to observed behavior concerning distal attribution. By exploring these facets, the chapter contributes to a deeper understanding of the intersection between postcognitivism, affordances, and sensory substitution, emphasizing the nuanced dynamics and potential advancements in this interdisciplinary realm.

Keywords Affordance, Sensory substitution, situated cognition, embodied cognition, assistive technologies.