The Proceduralization of Metacognitive Skills

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Abstract

Metacognitive control is the deliberate manipulation of cognitive states such as attentional control and emotional regulation (Flavell, 1979). Metacognitive control is known to improve with practice to become more skillful, yet the mechanisms for developing metacognitive skills remains unclear. I propose that metacognitive skills can be explained through the skills acquisition model advanced by Fitts and Posner (1967) and Anderson (1982). This account will focus on the process of proceduralization, where declarative task knowledge is converted into procedural knowledge. This model has been well researched in the development of both motor skills and cognitive skills (Ford et al., 2005; Anderson, 2007). To date, the model has not yet been robustly applied to the acquisition of metacognitive skills. As Anderson used an ACT-R model to frame his account of cognitive skills, I will apply an ACT-R model to account for the development of metacognitive skills.