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The Development of Metacognitive Monitoring Abilities and its Educational Implications

A crucial element in a child's educational development is the ability to form monitoring strategies that might be used to control study. The current research tested whether a monitoring ability could be improved above and beyond spontaneous development through explicit teaching methods. Thirty-three elementary school students in grade 1 (ages 5-6), were trained to monitor their memories by making confidence judgments using a betting procedure. During training, participants were asked to choose a previously presented picture from among 8 distractors. Then, participants were shown two risk icons, one representing a large bet; the other, a low bet. Participants earned 3 pennies if they chose the high-bet icon following a correct response but lost 3 pennies if they chose that icon following an incorrect response. One penny was earned anytime they chose a low-bet icon. Half of the participants were explicitly taught how to bet appropriately, whereas the other half was not given any explicit instructions about how to bet. Finally, two tests were used to measure the effects of training. The first was a memory task similar to the training procedure, except that novel risk icons were presented during the betting task. The second was a vocabulary task that required participants to select a synonym of the recently presented word from among 8 distractor words, followed by a bet response. Most participants learned to respond to the bet icons appropriately, demonstrating a general monitoring ability. More critically, during testing, participants in the explicitly taught condition were significantly more accurate at monitoring their memories than children who were not. Potential educational applications will be discussed.