No Tranfer of Training in Simple Addition

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Abstract: Several researchers have proposed that skilled adults may solve single-digit addition problems (e.g. 3+1=4, 4+3=7) using a fast counting procedure. Practicing a procedure often leads to transfer of learning and faster performance of unpracticed items. Such transfer has been demonstrated using a counting-based alphabet arithmetic task (e.g., B+4 = C D E F) that indicated robust RT gains when untrained transfer problems at test had been implicitly practiced (e.g., practice B+3, test B+2 or B+1). Here we constructed analogous simple addition problems (practice 4+3, test 4+2 or 4+1). In three experiments (n=108) there was no evidence of generalization for these items, but there was robust speed up when the items were repeated. The results are consistent with direct retrieval of addition facts from long-term memory rather than a counting procedure.