

ZMATH 2010b.00134

Jordan, Julie-Ann; Mulhern, Gerry; Wylie, Judith

Individual differences in trajectories of arithmetical development in typically achieving 5- to 7-year-olds.

J. Exp. Child Psychol. 103, No. 4, Special issue: typical development of numerical cognition, 455-468 (2009).

Summary: The arithmetical performance of typically achieving 5- to 7-year-olds ($N = 29$) was measured at four 6-month intervals. The same seven tasks were used at each time point: exact calculation, story problems, approximate arithmetic, place value, calculation principles, forced retrieval, and written problems. Although group analysis showed mostly linear growth over the 18-month period, analysis of individual differences revealed a much more complex picture. Some children exhibited marked variation in performance across the seven tasks, including evidence of difficulty in some cases. Individual growth patterns also showed differences in developmental trajectories between children on each task and within children across tasks. The findings support the idea of the componential nature of arithmetical ability and underscore the need for further longitudinal research on typically achieving children and of careful consideration of individual differences. (Contains 3 tables and 2 figures.) (ERIC)

Classification: C31 C32 F21 F22 C61 C62

Keywords: individual differences; number concepts; computation; longitudinal studies; child development; task analysis; arithmetic; pre-school education; primary education
doi:10.1016/j.jecp.2009.01.011