Individual variance in responsiveness to early computerized mathematics intervention.

Summary: We examined the effects of short, intensive computerized intervention in early number skills for kindergarteners with poor addition skills (below 1.5 SD). The mathematical content of the software was hierarchically organized, starting from one-to-one correspondence, comparing and ordering, and proceeding via number concept and counting to basic addition. The results showed positive within-group effects for basic addition (Wilcoxon ES ($r = .59$), verbal counting ($.56$), and the Number Sets Test ($.45$). The effects remained stable over a 9-week follow-up period. However, there was no significant between-group difference in terms of gain scores as compared to a wait-list control group. Based on game-log data, individual variance in responsiveness to the intervention was analyzed. Even though the findings suggest that adaptive, hierarchically organized content could provide effective support for some children with poor early number skills, more specific instruction and feedback system are needed in individualizing interventions.

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