**Development of Calculation and Word Problem Solving from Third to Fifth Grade**

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**Abstract**

Most of the previous research on development of math skills has been carried out with variable-oriented methods leaving the individual development aside. The current study focuses on the developmental trajectories of calculation and word problem solving skills through Grades 3-5, using person-oriented approach to advance current knowledge. The sample included 882 children form 29 schools. Calculation skills, word problem solving, planning, and verbal skills were assessed in Grades 3, 4, 5 latent class analysis was used to determine the number of latent classes each year; configural frequency analysis was used to find types and antitypes of developmental trajectories. In Grade 3 each latent class had either low, below average, average, or high results in all tests. In Grades 4 and 5 there were high and low classes, and also classes with similar calculation scores but diverse results in word problem solving, planning, and verbal skills. Results of the configural frequency analysis indicated that the children with high scores were less likely to fall into lower score groups over time. The children who had average calculation scores, below average word problem solving, low planning and verbal skills in Grade 4 were either likely to get poorer results in the following year or they were as likely to improve their results of calculation and verbal skills in Grade 5. The results indicate that developmental trajectories may be diverse and children with similar average or low results in one year may fall into different knowledge groups in the following year.

*Keywords*: calculation, word problem solving, cognitive development, person-oriented methods, developmental pathways.