

The University of California, Irvine

The Department of Education

Presents



Robert Siegler, Ph.D.

*Distinguished Professor
Carnegie Mellon University*

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9:30 – 10:45 AM

MPAA 330

“Leveling the Math Playing Field in Early Math Learning”

Theoretical analyses of the development of numerical representations suggest that playing linear number board games, which ground learning in sensorimotor activity, should enhance young children’s numerical knowledge. Consistent with this prediction, playing such a game for roughly one hour increases low-income, urban preschoolers' proficiency on a diverse set of numerical tasks: numerical magnitude comparison, number line estimation, counting, numeral identification, and learning of answers to arithmetic problems. The gains remain present nine weeks later and are equally strong for African-American and Caucasian children. Playing an identical game, except for the squares varying in color rather than number (akin to Candy Land), does not improve performance on any measure. Moreover, preschoolers' amount of home experience playing number board games is positively correlated with their numerical knowledge, whereas their experience playing card games and video games is not. Relations of these findings to the results of other early mathematics curricula will be discussed.