

Inclusive Mathematics Education: the Value of a Computerized Look-ahead Approach in Kindergarten. A Randomized Controlled Study

ANNEMIE DESOETE¹

MAGDA PRAET²

Abstract

Kindergarteners with 'additional educational needs' at-risk (n=40) for mathematics difficulties and a group of peers (n=92) were randomly assigned to play educational games in their regular classes, supporting the development of counting (14 children at-risk and 30 children not at-risk) or number comparison skills (10 children at risk and 29 children not at-risk) and to a business-as-usual group (16 children at-risk and 33 children not at-risk). The effects of educational ICT-technology was studied using a pretest-posttest and delayed or follow-up test design. The results indicated that a short and intensive intervention of playing educational games filled the gap between children at-risk and peers without additional education needs. Mathematic skills of kindergarteners increased, with training effects that were persistent in grade 1. Especially computer games supporting the development of counting skills enhanced the overall mathematical learning proficiency in grade 1. The implications for effective mathematic achievement, didactic methods, preventive support and the realization of inclusive education will be discussed.

Keywords

kindergarteners at-risk for mathematics difficulties, support, numeracy, computer game, counting, number comparison, mathematics learning