

**ZMATH 2015b.00589**

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**The impact of early algebra: results from a longitudinal intervention.**

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Summary: We provide evidence of the impact of early algebra (EA) over time. We document this impact in the following ways: (a) by showing the performance over time of an experimental group of 15 children on an algebra assessment, from 3rd to 5th grade; and (b) by showing how the performance on an algebra assessment of children from an experimental group differs from the performance of a group of comparison students from their same elementary school who did not receive EA instruction from 3rd to 5th grade. We compared students' scores through comparisons of means, correspondence factorial analyses, and hierarchical analyses. Our results highlight the positive impact of an early access to algebra, indicating that this early access is associated, when we compare 3rd graders to 5th graders, with increased scores on items that involve inequalities and graphs. When comparing experimental to comparison-group students we find increased scores on items that involve variables, functional relations, intra-mathematical contexts, tables, and algebraic expressions. The study adds to a body of literature that has been arguing for EA as well as a need to thread algebra throughout the mathematics curriculum, starting in the earliest grades.

*Classification:* F32 F33 H32 H33 F92 F93 D62 D63

*Keywords:* early algebra; elementary mathematics

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