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Developing algebraic thinking in early grades: case study of Korean elementary school mathematics.

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This study presents a case study of the Korean elementary mathematics curriculum on algebraic thinking. After describing a general overview of mathematics education in Korea, this study identifies six kinds of mathematical abilities related to algebra emphasized in Korean elementary textbooks: generalization, abstraction, analytic thinking, dynamic thinking, modeling, and organization. Based on the position that as a way of thinking algebra is much more than the set of techniques and knowledge, Korean elementary textbooks provide various activities under the goals to improve above six kinds of thinking. This study introduces sample problems for each specific goal and analyzes content coverage for algebraic thinking of each grade level. Finally, this study suggests new directions for promoting algebraic thinking.

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