

MANCHESTER, PEGGY D., Ph.D. May 2011

Curriculum and
Instruction

YOUNG CHILDREN CONCEPTUALIZE THE RELATIONSHIPS AMONG
POSITIVE AND NEGATIVE NUMBERS AND ZERO (191 pp.)

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The purpose of this qualitative study was to explore how young children conceptualize the relationships among positive and negative numbers and zero within contextual situations. Data were collected through video-taped interviews between the children and the researcher and from written work completed by the children.

Twenty-four four- to eight-year-old children with no formal instruction on negative numbers participated in the study. The children encountered situations of negative number context in modified number line and collection activities. They demonstrated insights and intuitions of negative numbers. They were encouraged to make representations for negative numbers encountered as deficit or directional situations. The findings indicate that young children conceptualize relationships among only positive numbers, positive numbers and zero, and positive and negative numbers in contextual situations, but not between two negative numbers. Few children attempted to create representation for negative numbers, and only one child utilized her notation to solve problems. The children demonstrated more conceptual understanding of a deficit situation, or negative number context, in collection-type activities than in modified number line activities.