

The Development of Conceptual and Procedural Understanding of Counting

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April 2007

A Thesis Presented to the Department of Psychology in Partial Fulfillment of the Requirements for the B.A. with Honours Degree

Abstract

The purpose of this study was to examine the development of children's procedural and conceptual knowledge of counting in senior kindergarten, Grade 2, and Grade 4. Several standardized measures and computer-based tasks of mathematical ability were completed by the children. In particular, the Counting Principles Task which measures conceptual knowledge was examined in depth for its relation to other measures, specifically numeration skill and counting reaction times. Numeration skill was not found to be significantly related to counting principles and thus conceptual knowledge, while counting reaction times were found to be significantly related to the counting principles task. The hypothesis put forth also stipulates that as evidenced from previous research, conceptual knowledge of counting principles will appear to get worse in Grade 2, then improve in Grade 4, thus showing a curvilinear pattern across grade. This pattern was replicated in this study.