Early Literacy Intervention in Chinese: The Relative Role of Copying Activity, and Its Combination with Morphological Awareness and Pinyin Knowledge

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Abstract

A growing body of literature has provided evidence of the early precursors of children's literacy skills; however, most of the studies focused on reading outcomes, while writing outcomes have been under-explored. Furthermore, few studies have been conducted to examine the effectiveness of intervention programs on children's Chinese literacy acquisition at the initial learning stage.

In the first study (correlational study), the correlates of word reading and writing, including morphological awareness, orthographic awareness, phonological awareness, rapid automatized naming (RAN), vocabulary knowledge, Pinyin knowledge and copying skills were explored in 142 third year mainland Chinese kindergarteners. Results showed that 1) Chinese kindergarteners' word reading and writing skills were moderately correlated; 2) morphological awareness, orthographic awareness, RAN and Pinyin letter-name knowledge independently explained variance in word reading; while delayed copying skill, RAN and orthographic awareness uniquely explained variance in word writing; 3) morphological awareness, orthographic awareness, and RAN independently explained variance in both character reading and word reading; however, orthographic awareness explained unique variance in character reading even after statistically controlling word reading. The second study with a different sample of 63 third year mainland Chinese kindergarteners showed that children performed significantly better on reading the same characters embedded within words than alone. These results highlighted the significant role of orthographic awareness and Pinyin knowledge to word reading. The second study supported the idea that orthographic awareness plays an important role in character reading. The correlational study also shed light on the unique role of copying skills on Chinese writing beyond other literacy-related skills. Delayed

copying skill, which combines visual-motor integration and visual-orthographic abilities, contributes more toward writing than to word reading at this age.

In the third study (intervention study), we assessed the effects of three intervention programs on K3 children's literacy acquisition: copying program (Copy), a combined program of copying and morphological awareness (Copy+MA), and a combined program of copying and Pinyin knowledge (Copy+Pinyin). Ninety-seven kindergarteners aged 5-7 from mainland China (30 in Copy, 35 in Copy+MA, 32 in Copy+Pinyin) participated in evaluation of the interventions. Thirty untrained children served as a control group. Children were tested twice, before and after intervention, on: nonverbal intelligence, morphological awareness, orthographic awareness, phonological awareness, invented Pinyin spelling, word reading and writing skills. Results indicated that, after an eight-week intervention period, the children in the Copy program progressed significantly more than the control group on literacy skills. The Copy+MA program yielded greater improvement in word reading and writing, as well as significantly higher orthographic awareness than other groups, whereas the Copy+Pinyin program yielded significant greater improvement in invented Pinyin spelling than other groups, in addition to the significantly higher reading and writing improvement, as compared to the control group. Effect sizes for all outcomes met criteria for substantive importance.

The present research was among the first attempts to discover and analyze Chinese literacy intervention programs for preschool children. The findings showed effects of copying skill in word reading and writing, and also highlighted the importance of multi-component interventions in early Chinese literacy learning.

Keywords: Chinese word reading, Chinese word writing, Orthographic Awareness, Morphological Awareness, Copying Skill, Pinyin knowledge, Combined program