



What is the Role of Fluency in Early Writing Tasks?

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Introduction

A number of studies have demonstrated that fluent handwriting and spelling, established by explicit instruction and fluency-building exercises is important for increasing children's writing quality in the early elementary grades (Berninger et al., 2006). Focusing on these fundamental early writing skills is critical due to the recent national estimates suggesting that only 28% of fourth-grade students in the U.S. were writing at the level expected of them (National Center for Education Statistics, 2003). As children develop written expression skills, it becomes important to formatively evaluate their writing fluency. Although a previous study has examined the validity of commonly-used writing measures (McMaster & Espin, 2007), no studies have examined the role fluency plays in early writing tasks, including written responses on other academic tasks (i.e., mathematical computation).

Purpose

The purpose of the present study was to examine the role that writing fluency plays in early academic tasks used in school settings. The relationship between five measures was examined including measures that required basic handwriting skills, such as copying a paragraph and writing letters, to more complex tasks that required students to generate text for a story and solve mathematics computation problems. Based on previous work by Berninger (2006), it was hypothesized that writing fluency would be more strongly related to basic copying skills.

Participants and Setting

- Students were recruited from three elementary schools located in a mid-sized city in the Northeast.
- A total of 188 third-grade students enrolled in nine general educational classrooms participated.
- An equal number of male ($n = 93$) and female ($n = 95$) students participated.
- Most of the students self-identified their race and ethnic background as Black or African American (78%).
- A large percentage of participants (78%) were eligible for free or reduced-price lunch.

Procedures

Measures

- Curriculum-Based Measurement (CBM) probes in:
 - Written Expression (McMaster & Campbell, 2006)
 - Mathematics Computation [Mixed Basic Addition and Subtraction] (Shinn, 2004)
 - Mathematics Computation [General Outcome Measurement] (Shinn, 2004)
- The *Paragraph Copying Task of the Monroe-Sherman Group Diagnostic Reading Aptitude and Achievement Test* (Monroe & Sherman, 1966)
- The *Alphabet Writing Task of the Written Expression Subtest of the Wechsler Individual Achievement Test* (WIAT-II; Psychological Corporation, 2002)

Administration

- Across two 20-minute sessions, participants were administered the five measures, each requiring handwritten responses produced under a time constraint.
- Each measure was administered as prescribed in the accompanying manual.

Results

- The intercorrelations between the early writing tasks were computed and are reported in Table 1.
- Strong, positive relationships were observed between writing fluency, as measured by CBM-WE probes, and the *Paragraph Copying Task* ($r = .63, p < .01$) and the *Alphabet Writing Task of the WIAT-II* ($r = .40, p < .01$).
- Moderate, positive relationships were observed between writing fluency, as measured by CBM-WE probes, and the CBM Mathematics Computation probes assessing General Outcomes ($r = .36, p < .01$) and Mixed Addition and Subtraction ($r = .32, p < .01$).

Table 1. *Intercorrelation Matrix*

Metric	CBM-WE	CBM-M	Copying Task	Alphabet Writing Task	CBM-GOM
CBM-M	.32**	--			
Copying Task	.63**	.51**	--		
Alphabet Writing Task	.40**	.40**	.33**	--	
CBM-GOM	.36**	.58**	.43**	.37**	--

** $p < .01$

Discussion

- For elementary-aged students, this study reveals that writing fluency is positively associated with basic writing tasks as well as basic mathematics tasks.
- These results corroborate previous research findings (Berninger, Hart, Abbott, & Karovsky, 1992; Graham, Berninger, Abbott, Abbott, & Whitaker, 1997; Jones & Christensen, 1990) addressing the importance of assessing writing fluency in elementary-aged students and suggests that writing fluency may play a critical role in the development of basic academic skills.