Using Scaffolds to Measure Optimal Performance in Preschool Literacy

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Abstract

In typical spelling assessments, 3- to 4-year-olds get lower scores than 5-year-olds. Are these lower scores a result of typical development or aspects of development unrelated to spelling (i.e., lack of motor ability to write letters and writing memory limitations)?1 2 This study compared two preschool spelling assessments: (1) a typical handwritten spelling assessment that included a working memory scaffold, and (2) a movable alphabet assessment that included both a motor and working memory scaffold. Results indicate that:

- Preschoolers scored higher on the movable alphabet spelling assessment.
- Movable alphabet scores were a significantly stronger predictor of developing literacy than handwriting scores.
- Children were more willing to attempt to spell words with the alphabet assessment.
- Assessment scores were not closely tied to age or measures of behavior.

Methods & Materials

Participants: Two public schools in Western Massachusetts agreed to participate in the study. Students who were English Language Learners, had a known family history of reading disability, and/or with documented disabilities that would prevent them from following study procedures were excluded. Of 80 eligible students, two children refused to begin. All other students (n=78) completed at least one of the five planned assessments and were evaluated using both child behavior assessment tools.

Materials & Measures: The primary investigative material was the movable alphabet (see Figure 2). The alphabet box contained 10 printed cards for each letter of the alphabet. Because both school Imagistic Letter prints, uppercase letters, the alphabet contained uppercase letters only. Additionally, both spellings included a picture card for each of the 16 spelling words assessed (8 words randomly chosen/assessment). Students were evaluated using the five assessments listed in Table 1.

Discussion

Scaffolded assessment demonstrates that preschoolers can spell. The study results show that a movable alphabet spelling assessment is a more reliable, valid, and sensitive measure of preschool spelling abilities than a handwritten assessment. As such, the lower scores historically reported on handwritten preschool spelling assessments may reflect aspects of development unrelated to spelling. Because moves may be an additional limitation of spelling assessments, thus may contribute to the self-efficacy of spelling assessments. Moreover, children were more than two times as successful in spelling words with the movable alphabet than on the handwriting assessment (338 words attempted; 285 words attempted; p<0.01). A Fischer r to z transformation indicates that this difference is significant (r=0.36; p<0.01). Phonetic awareness scores were moderately correlated with total movable alphabet spelling assessments (r=0.45; p<0.01), total handwritten spelling assessments (r=0.42; p<0.01), and letter sound knowledge scores (r=0.507; p<0.01) (see Table 5).

Scaffolding via a Movable Alphabet: A movable alphabet is a physical representation of alphabetical letters. Using a movable alphabet to “write” words provides a motor and working memory scaffold for spelling activities.

Figure 2: Movable Alphabet and Handwritten Spelling Assessments

In both assessments, children were shown a photo of the target word and could see the movable alphabet in the assessment (left), they were then asked to use the letter cards to make the word. In handwritten spelling (right), they were asked to use a pen to write the word.

References