The Assessment of Urban Preschool Children’s Emerging Print Awareness Skills

BY:

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Introduction

- **Emergent literacy** - acquisition and refinement of early literacy skills. The terms emergent literacy, early literacy and pre-literacy can be used interchangeably. All of these terms refer to the period of time when young children are first exposed to and begin to attain some emerging aspects of conventional or print literacy skills (Justice & Ezell, 2002; van Kleeck, 1998).

- The earliest interactions and exposures to literacy skills occur from birth through the preschool years (Justice & Ezell, 2004).

- Early literacy skills are the foundation for more advanced literacy skills. Children who do not have a rich foundation of emergent literacy skills are less likely to be adequately prepared for reading instruction in the early elementary grades and are less likely to catch up to their peers (Whitehurst and Lonigan, 2006).
Emergent literacy encompasses two prominent skill areas:

- **Phonological awareness** - children’s awareness of the phonological aspects of spoken language, including children’s developing awareness of words, syllables, rimes and phonemes (Justice, Sofka & McGinty, 2007).

- **Print awareness** - children’s attainment of knowledge of print, the function of print, and the similarities and differences between oral and written language (Justice & Ezell, 2002).

Print awareness/alphabet knowledge has been identified as one of the best predictors of eventual reading achievement (Adams, 1990; Stevenson & Neuman, 1986; Whitehurst & Lonigan, 2006).
Introduction

Justice and Ezell, (2002), identified four dimensions of print awareness. These dimensions included:

1) **Print and book reading conventions** - the knowledge of environmental print and the function of print and books

2) **Concept of word** - the knowledge and understanding that words are individual units and that a relationship exists between oral and written language

3) **Alphabet knowledge** - the knowledge that letters represent individual units (graphemes) and that letters have features and names

4) **Literacy terms** - terms used to label and describe interactions with written language
Goal: To determine the assessment accuracy of two measures for the assessment of emerging print awareness skills of urban preschool children. This study compared the effectiveness of the Test of Preschool Early Literacy and the Preschool Word and Print Awareness assessment; both assessments were used to evaluate the amount of print knowledge urban preschool children had.

Question: Which assessment provided the most insight into the abilities, knowledge and skills of urban preschool children in the area of print awareness?

Hypothesis: That the criterion-referenced assessment would provide the most insight into the print awareness skills of the participants because of its concrete and familiar context, verses the decontextualized and “abstract” norm-referenced assessment.
Methodology

Children were considered for participation in the study when the following criteria were met:

1) Had a known history of speech and language impairments
2) Had hearing that was within normal limits
3) Were within the ages of 3 years to 5 years 11 months
4) Were enrolled in a preschool program affiliated with the Wayne State University Speech and Language Center and located in Detroit, MI

The sample for this study consisted of eleven children: eight males and three females, nine African Americans and two Caucasians. The participants ranged in age from 3:8 to 5:0. The participant’s diagnoses included: receptive and expressive language delays, speech impairments, articulation impairments, pragmatic difficulties, and phonological impairments.
Assessments

- Norm-referenced assessment
  - The *Test of Preschool Early Literacy*, (i.e., the TOPEL), developed by Lonigan, Torgesen, Wagner, & Rashotte (2007).
    - Goal:
      - The TOPEL was used to measure the broad range of children’s knowledge of print awareness
        - Subtests of the TOPEL include print knowledge, phonological awareness and definitional vocabulary
Assessments

- Criterion-referenced assessment

  - The *Preschool Word and Print Awareness assessment* (i.e., the PWPA), developed by Justice and Ezell (2001).

  - **Goal:**
    - To assess two areas of children’s print awareness skills during shared storybook reading
      - **Words in print**, book 2, Spot Bakes a Cake (Hill, 1994).
## Table 1

*Note.* aCenter 1 = Wayne Metro Head Start, Center 2 = Wayne State University Child Development Lab. bLD = language delay, AD = articulation delay, PD = phonological delay. cPWPA = Preschool Word and Print Awareness assessment. dTOPEL = Test of Preschool Early Literacy, PrintK = print knowledge subtest, DV = definitional vocabulary subtest, PhonA = phonological awareness subtest.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Center&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Age</th>
<th>Diagnosis&lt;sup&gt;b&lt;/sup&gt;</th>
<th>PWPA&lt;sup&gt;c&lt;/sup&gt;</th>
<th>TOPEL&lt;sup&gt;d&lt;/sup&gt;</th>
<th>Overall</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Book 1</td>
<td>Book 2</td>
<td>PrintK</td>
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<tr>
<td>S01</td>
<td>1</td>
<td>4:8</td>
<td>LD, AD</td>
<td>67</td>
<td>17</td>
<td>86</td>
</tr>
<tr>
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<td>1</td>
<td>4:2</td>
<td>LD, PD</td>
<td>42</td>
<td>8</td>
<td>81</td>
</tr>
<tr>
<td>S03</td>
<td>1</td>
<td>3:10</td>
<td>PD</td>
<td>25</td>
<td>17</td>
<td>84</td>
</tr>
<tr>
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<td>1</td>
<td>4:3</td>
<td>PD</td>
<td>50</td>
<td>33</td>
<td>86</td>
</tr>
<tr>
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<td>5:0</td>
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<td>17</td>
<td>17</td>
<td>77</td>
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<tr>
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<td>PD</td>
<td>75</td>
<td>25</td>
<td>90</td>
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<td>4:1</td>
<td>LD</td>
<td>8</td>
<td>0</td>
<td>85</td>
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<td>125</td>
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<td>4:4</td>
<td>-</td>
<td>60</td>
<td>33</td>
<td>121</td>
</tr>
</tbody>
</table>

|          |                  |     |                        | Mean   | Min   | Max   | SD    |
|          |                  |     |                        | 4:3    | 4:3   | 5:0   | 0.4   |
|          |                  |     |                        | 38.9   | 8     | 75    | 23.2  |
|          |                  |     |                        | 19.6   | 0     | 50    | 14.6  |
|          |                  |     |                        | 94.2   | 77    | 128   | 18.1  |
|          |                  |     |                        | 84.8   | 58    | 104   | 14.6  |
|          |                  |     |                        | 79.1   | 65    | 104   | 12.6  |
|          |                  |     |                        | 81.4   | 57    | 110   | 17.7  |
Statistical Analyses*

- The participants’ scores for each portion of the PWPA were compared with a paired sample *t*-test. The means, ranges, and standard deviations are reported in Table 1.

- The data revealed a significant difference between the two sections of the measure (*t*=3.478, df=10, *p*<.01). Participants scored significantly higher on Book 1-Print Concepts, than they did on Book 2-Words in Print (see figure 1).

- A Pearson correlation determined that the scores on Book 1 and Book 2 were positively and significantly correlated (*r*=.610; *p*<.05) (see figure 2).

* Note: the sample size (n) for this pilot study was small; statistical results should be viewed as such.
To determine whether the scores on the PWPA were predictive of performance on the TOPEL, correlational analyses were used.

Scores on the TOPEL print awareness subtest were compared to each of the PWPA measures. For both Book 1 and Book 2, the Pearson correlation revealed weak positive correlations that were not significant (Book 1: $r = .075; p = .827$; Book 2: $r = .409; p = .212$).

Scores on the criterion-referenced measure did not predict scores on the norm-referenced measure.
Figure 1. Differences between means of book 1 and book 2 on the Preschool Word and Print Awareness assessment.
Figure 2. The Pearson correlation for the Preschool Word and Print Awareness assessment book 1 and Preschool Word and Print Awareness assessment book 2.
Discussion

- Overall, participants scored higher on Book 1 of the criterion-referenced measure than on Book 2.

- The participants’ performance on the norm-referenced assessment was not indicative of their performance on the criterion-referenced measure.

- Contrary to the hypothesis, the outcome of the study found that the participants scored higher on the norm-referenced assessment than on the criterion-referenced assessment.
  - This finding was interesting, especially since the norm-referenced assessment was administered outside of the context of shared book reading and the criterion-referenced assessment was administered in the context of shared book reading.
Discussion

- Participants scored higher on the TOPEL than on the PWPA. Interestingly, participants from Wayne Metro Head Start (center 1) scored notably lower on the TOPEL than the participants from the Wayne State University Child Development Lab (center 2).
  - Perhaps the difference in test scores between the two sites was due in part to the socioeconomic status and education level of the parents of the participants. While no measures of socioeconomic status were included in this study, the parents of the children attending the university based preschool were attending university classes or worked for the university. Therefore, the two centers were assumed to represent different socioeconomic population samples.
  - This finding is important clinically because socioeconomic status and parent education level influence the development of children’s speech and language abilities. Future research should explore the influence of parental education level and socioeconomic status on children’s literacy development.
Discussion

- The results indicated that the criterion-referenced assessment was more sensitive and better identified participants as “at risk” for deficiencies in print awareness than the norm-referenced assessment.
  - This may be due to the participants lack of exposure to shared book reading, or to shared book reading exposures that lacked direct questioning (prompting).
  - Therefore, it can be concluded that of the two assessments used, the PWPA showed the most insight into the print awareness skills and abilities of urban preschool children.
    - The most insight was quantified as the assessment whose results were determined to be the most representative of the participants functional print awareness skills.
- The present study may serve as a foundation for future research that more fully explores the development of emergent literacy assessments that are appropriate for the urban preschool population.


References


