Laying the Groundwork for Literacy

**The National Early Literacy Panel releases preliminary findings in its synthesis of research on early literacy education.**

*Dorothy S. Strickland and Timothy Shanahan*

An increasing body of evidence shows that high-quality early education yields long-lasting benefits (Bowman, Donovan, & Burns, 2000; Shonkoff & Phillips, 2000). Educators and policymakers have begun to ask essential questions: What skills and abilities do young children require to help them grow into successful readers and writers? How can we prevent reading difficulties? What roles do school and home play in young children's literacy development? The National Early Literacy Panel, in its ongoing synthesis of early literacy education research, hopes to provide some answers.

In 2002, the National Reading Panel released its influential report, *Teaching Children to Read*, which synthesized some of the scientifically based reading research on students in kindergarten through 12th grade. But no similar research synthesis existed on the topic of early literacy development in children from birth through age 5. Research dealing with early childhood development (Bowman et al., 2000; Shonkoff & Phillips, 2000) did not focus on either literacy preparation or evaluating the specific factors that contribute to successful literacy development (Barnett, 1998; Strickland & Barnett, 2003).

**National Early Literacy Panel**

The National Early Literacy Panel (NELP) was created through the Family Partnership in Reading Project, which is funded by the National Institute for Literacy under the auspices of the National Center for Family Literacy. NELP’s mission was twofold: to provide a research synthesis on early literacy development that would contribute to education policy and practice decisions affecting early literacy development and to evaluate the role of teachers and families in supporting children’s language and literacy development. This evidence would help the National Center for Family Literacy create literacy-specific materials for parents and teachers as well as staff development programs for family literacy practitioners.

NELP used methodology consistent with that used by the National Reading Panel (NRP) in its synthesis on reading education research. There are some important differences, however. Like NRP, NELP conducted extensive and rule-based searches of the key education databases. But NELP has a broader perspective than NRP, considering early writing and spelling development as well as reading.

For inclusion in the synthesis, studies had to meet some basic selection criteria. Studies had to be published in English in refereed journals and had to report empirical research on children up to the age of 5 (or through kindergarten).

NELP set out to answer four basic questions about early literacy development:
What skills and abilities of young children (birth through 5 years) predict later reading outcomes?

How do environments and settings contribute to or hinder the development of such skills and abilities?

How do the characteristics of children contribute to or hinder the development of such skills and abilities?

How do programs and interventions contribute to or hinder the development of such skills and abilities?

Because NRP focused on the performance of school-age children, it included studies that examined word recognition or decoding, oral reading fluency, and reading comprehension. NELP's focus was substantially different. Although some children become readers and writers before entering kindergarten or 1st grade, most are more accurately described as prereaders or emergent readers. Thus, direct measures of reading and writing skills, such as those used by NRP, fail to reveal much about younger children. Preliminary NELP findings provide us with some clues about what skills and abilities of young children predict later reading outcomes.

First, NELP established standards of evidence. For a skill or an ability to qualify as a potentially important precursor to later literacy development, it had to significantly correlate with reading, writing, or spelling development. NELP considered studies that measured one or more skills or abilities during the preschool or kindergarten years and that subsequently provided a direct measure of reading, writing, or spelling skill for these same students. NELP required at least three independent studies for each variable. Also, the average correlation across these studies needed to be large enough (.30) to suggest some potential educational value if the variable was implicated in later literacy learning. Finally, NELP required that the early skills or abilities studied be teachable; there is no point in focusing policy or practice on such theoretically unchangeable characteristics as IQ.

The Findings

NELP found that certain skills and abilities have direct links to children's eventual success in early literacy development. The 11 variables listed in Figure 1 (p. 76) qualified as predictors with sufficient correlation to literacy to merit further consideration: alphabetic knowledge, print knowledge, environmental print, invented spelling, listening comprehension, oral language/vocabulary, phonemic awareness, phonological short-term memory, rapid naming, visual memory, and visual perceptual skills. In some studies, the correlations were calculated to measure either the relationship between the preschool skills and the children's decoding ability or the relationship between the preschool skills and the children's subsequent reading comprehension. If the variable met the standard for either the decoding or comprehension outcome, it was included for further study.

Correlations can range from .00 (no relationship) to 1.00 (a perfect relationship). Figure 1 provides a description of how closely measures of early performance related to later reading achievement. Correlations show similarity of performance on the two measures; they do not imply causation. If a preschool or kindergarten variable is both highly correlated and causally connected, then teaching the skills or abilities summarized by that variable would most likely lead to higher literacy performance.

The findings will reassure early childhood professionals that many of their assumptions about predictors of reading success are valid. They may wish to use this information as they plan well-integrated, developmentally appropriate, and engaging opportunities for students to build the foundations for
reading and writing.

We examine some of the broader variables below: oral language, alphabetic knowledge, and print knowledge.

**Figure 1. Correlations of Preschool Skills or Abilities with Decoding or Reading Comprehension Measures**

<table>
<thead>
<tr>
<th>Preschool Skill or Ability</th>
<th>Decoding</th>
<th></th>
<th>Comprehension</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean correlation</strong></td>
<td><strong>Number of studies</strong></td>
<td><strong>Number of children</strong></td>
<td><strong>Mean correlation</strong></td>
<td><strong>Number of studies</strong></td>
<td><strong>Number of children</strong></td>
</tr>
<tr>
<td>Alphabetic knowledge</td>
<td>.46</td>
<td>26</td>
<td>2,904</td>
<td>.45</td>
<td>6</td>
</tr>
<tr>
<td>Print knowledge</td>
<td>.46</td>
<td>11</td>
<td>1,203</td>
<td>.30</td>
<td>1</td>
</tr>
<tr>
<td>Environmental print</td>
<td>.52</td>
<td>4</td>
<td>543</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Invented spelling</td>
<td>.56</td>
<td>9</td>
<td>703</td>
<td>.69</td>
<td>2</td>
</tr>
<tr>
<td>Listening comprehension</td>
<td>.27</td>
<td>9</td>
<td>1,399</td>
<td>.32</td>
<td>3</td>
</tr>
<tr>
<td>Oral language/vocabulary</td>
<td>.30</td>
<td>26</td>
<td>2,088</td>
<td>.26</td>
<td>8</td>
</tr>
<tr>
<td>Phonemic awareness</td>
<td>.45</td>
<td>49</td>
<td>4,448</td>
<td>.42</td>
<td>13</td>
</tr>
<tr>
<td>Phonological short-term memory</td>
<td>.26</td>
<td>25</td>
<td>2,502</td>
<td>.38</td>
<td>9</td>
</tr>
</tbody>
</table>
### Oral Language

The correlational studies linking oral language to literacy address vocabulary growth and listening comprehension. Few studies measure young children's syntax or grammar development and link performance in this area to later reading achievement.

Oral language development is facilitated when children have many opportunities to use language in interactions with adults and with one another, both one-on-one and in small groups; when they frequently engage in extended conversations with adults; and when they listen and respond to stories read and told to them. These activities enable the students to describe events, build background knowledge, and extend their vocabulary. Because evidence now supports the importance of oral language as a precursor to and an ongoing support for literacy, preschools should provide opportunities for students to

- Create sounds by singing and participating in music making.
- Listen and respond to music, stories, and discussions.
- Listen for various purposes: for enjoyment, to follow directions, to engage in dialogue with others, and to attend to patterns in language.
- Engage in oral language activities that are linguistically, cognitively, and verbally stimulating.

### Alphabetic Knowledge

Knowledge of the letters of the alphabet and phonological awareness (the ability to hear the sounds within words) form the basis of early decoding and spelling ability, and both are closely correlated with later reading and spelling achievement. Young children can learn to name and distinguish letters. They can also begin to develop an awareness of the constituent sounds within words, such as syllables, rhymes, and phonemes. Children who can hear the sounds in oral language are more likely to benefit from early reading instruction.

To develop phonological awareness, teachers should immerse students in language-rich environments. Given the importance of alphabetic knowledge, preschools should provide opportunities for students to

- Play with letters, such as those in alphabet puzzles, and engage with alphabet books.
- Participate in activities in which teachers link the names of letters and the sounds they represent to writing, particularly to the students' own names.
- Work with rhymes and play language games with letter sounds.
- Draw and write independently for personal enjoyment.
**Print Knowledge**

Making sense of print includes an awareness and understanding of environmental print (print that surrounds us in our environment, such as in the supermarket); an understanding of the concepts of print (such as where to begin to read a book or a page and in what direction to read); and the ability to invent the spelling of words. To foster print knowledge, preschools should provide opportunities for students to

- Observe adults writing as the adults say the words aloud.
- Contribute ideas and language for others to write down.
- Participate in discussions about the use of labels and signs.
- Observe and follow along as adults track print from left to right while reading aloud.
- Independently browse through books front to back and draw and "write" independently.

Some of these early skills identified by NELP will prove to be crucial in later literacy achievement, whereas others will prove to be more incidental to literacy. Nevertheless, this first synthesis provides significant clues as to what works in preschool literacy education.

**References**


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