National Early Literacy Panel

Synthesizing the Scientific Research on Development of Early Literacy in Young Children

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The National Center for Family Literacy (NCFL), with funding from the National Institute for Literacy (NIFL), identified and convened the National Early Literacy Panel (NELP) to conduct a synthesis of scientific research on the development of early literacy in young children. The objective for convening the NELP was to identify interventions and practices that promote positive outcomes in literacy for preschool children. The panel formulated four research questions.

- What are the skills and abilities of young children ages birth to five years that predict later reading outcomes?

- What programs and interventions contribute to or inhibit gains in children's skills and abilities that are linked to later reading outcomes?

- What environments and settings contribute to or inhibit gains in children's skills and abilities that are linked to later reading outcomes?

- What child characteristics contribute to or inhibit gains in children's skills and abilities that are linked to later reading outcomes?

The results reported here are preliminary. Final results will be available in a report to be released at a later date.

Identifying Early Literacy Predictors

Because it was unlikely that there would be interventions that directly targeted conventional literacy skills (decoding, reading comprehension, spelling) prior to formal instruction in kindergarten and beyond, the first research question was primary in identifying the preschool and kindergarten predictors of conventional literacy skills. The NELP identified, coded and analyzed 300 peer-reviewed research articles to identify the predictors.

Overall, across the three different outcome domains for conventional literacy, a consistent set of variables with moderate to strong relationships emerged. Based on these findings, there was strong evidence for the importance of alphabet knowledge, phonological awareness, rapid naming tasks involving either naming of letters and digits or naming of objects and colors, writing/writing name, and phonological short-term memory as predictors of later reading and writing skills. Less consistent evidence existed for the importance of global oral language skills and concepts about print as predictors of later reading and writing skills, mainly because these variables did not always continue to predict literacy outcomes once other variables like alphabet knowledge or phonological awareness were controlled. There was weak evidence for the importance of visual perceptual skills as a predictor of later reading and writing skills, because a moderate relationship emerged only for one conventional literacy outcome and because it did not continue to predict literacy outcomes once other variables like alphabet knowledge or phonological awareness were controlled.

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Secondary analyses revealed that the important predictors continued to have moderate to strong relationships with conventional literacy outcomes regardless of age at which the predictor was assessed or the age at which the outcome was assessed.

Identifying Effective Interventions

The NELP examined a total of 182 articles across five categories of interventions to determine the impact of various approaches on the identified early literacy predictors and conventional literacy skills. The five categories were:

- Code-related interventions (e.g., phonological awareness, alphabet knowledge, and making sense of print)

- Shared-reading interventions

- Parent and home programs for improving young children's literacy

- Preschool and kindergarten programs

- Language enhancement interventions

All categories of interventions had statistically significant positive effects for at least some outcome domains (i.e., outcomes identified by the NELP predictive analysis). Not every category had equal numbers of studies, and many categories did not have sufficient studies to determine effects on particular outcomes. Impacts of various approaches were not measured on all possible outcomes. Nonetheless, it is apparent that explicit attempts to build code-related skills; to share books with young children; to enhance oral language; and to use home, preschool, and kindergarten interventions all can

be valuable paths to at least some literacy and language outcomes.

For the category involving code-related interventions, the interventions had a large impact on phonological awareness; moderate impacts on writing, spelling, oral language, alphabet knowledge, rapid automatized naming, print knowledge, reading and memory; and a small impact on readiness. There were substantial numbers of studies for several of these variables (phonological awareness, oral language, alphabet knowledge, reading and spelling) indicating that these findings are reliable. Additionally, although impacts of these interventions were seen on a broad array of constructs, they also impacted measures that the interventions were not specifically designed to teach such as reading and writing.

Reading to young children was found to have moderate impact on oral language and print knowledge.

Sufficient numbers of studies of parent and home programs resulted in a small to moderate impact on children's oral language development and fewer studies supported a large impact on cognitive ability.

Preschool and kindergarten programs were found to have substantial impacts on readiness and moderate impacts on reading and oral language. Smaller impacts were evident for alphabet knowledge, cognitive ability, and spelling.

Direct efforts to teach oral language were moderately effective.

Further Analyses

Further analyses have been conducted to gauge effects of demographic characteristics and a variety of other potential moderators directly related to the interventions in each category. The results are too extensive to share here but will be included in the final report of the panel. Overall, however, there were limited numbers of studies to allow for many moderator analyses, and there was limited evidence of large effects of the moderators that could be examined.

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