



EVIDENCE-BASED PRACTICES

Successful classroom instruction begins with practicing what research has identified as effective. This is the first in a series of bulletins that examines research-based evidence and is intended to help educators improve instructional practices. This issue focuses on three articles that analyze why students have difficulty learning to read. Each article concludes that phonological awareness (ability to hear individual phonemes which are the smallest discrete sounds in words) is necessary in the early learning process and recommends explicit and systematic teaching of phonemic skills. Classroom implications are noted next to each review.

Literature Reviews

Foorman, Barbara; Fletcher, Jack; and Francis, David. A scientific approach to reading instruction. No date. Available online at: www.ldonline.org/ld_indepth/reading/cars.html

The authors of this report briefly review research findings that identify the causes of most reading difficulties and effective interventions for these difficulties. This research has been available over the past years but has rarely been used to guide curriculum development and instruction. Research findings point to the fact that virtually all poor readers (10 million children in the United States) have problems with segmentation of words and decoding. Other findings in classroom-based studies have shown that direct, intensive and systematic instruction in phonological awareness, awareness of the alphabet, decoding, sensitivity to the structure of our writing system, and comprehension monitoring strategies are necessary for at least 30% of our students to become competent readers. Additional findings indicate that while sociological and family factors may affect learning to read, direct instruction in these areas can prevent failure despite these issues. The authors list what teachers need to know and be able to do in order to be informed and competent reading teachers.

Synthesis of research on phonological awareness: Principles and implications for reading acquisition. Smith, S. B.; Simmons, D. C.; and Kameenui, E. J. Available online at <http://idea.uoregon.edu/~ncite/documents/techrep/tech21.html>

This report reviews two decades of research on the relationship between reading disability and deficits in phonological awareness (the ability to hear and manipulate sounds.) These studies focused on a wide range of normal and diverse learners. Research results supported phonological awareness as critical to early reading success and as a key factor in distinguishing between good and poor readers. Assessment of these skills is considered as a necessary part of preschool and kindergarten curricula. It is recommended that instruction in phonological awareness be a part of teaching reading to children with delays or disabilities. Effective components of instruction were identified as explicit teaching using concrete representation and oral modeling of individual sounds, student production of sounds, addition of teaching

Classroom Implications

- Provide direct instruction, separate from the reading series, in order for students to develop phonological and alphabetical awareness and fluency in decoding.
- Include, in direct instruction, sensitivity to the structure of our writing system and comprehension monitoring strategies.
- Provide phonological awareness instruction to students who have been identified as possibly delayed or disabled.
- Use the following effective components of instruction:
 - ...explicit teaching using concrete representation and oral modeling of individual sounds;
 - ...student production and identification of sounds;
 - ...addition of teaching sound-letter correspondence to phonemic instruction;
 - ...segmentation of increasingly difficult phonological units.

letter-sound correspondence to phonemic instruction, and segmentation of increasingly difficult phonological units. These interventions, common to all the research examined, are seen as contributing to subsequent reading acquisition and achievement.

TEACHING CHILDREN TO READ: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Report of the National Reading Panel. U.S. Department of Health and Human Services, National Institute of Child Health and Human Development. April, 2000. Findings and Determinations of the National Reading Panel by Topic Area

The National Reading Panel (NRP) was convened in response to a 1997 request from the U. S. Congress and Secretary of Education to assess the status of research-based knowledge on teaching children to read. It was found that phonemic awareness and letter knowledge were the two best predictors of how well children will read in their first two years of instruction. Training in phonemic awareness was linked to the improvement in students' phonemic awareness, reading, and spelling. It was also concluded that systematic and explicit teaching of phonics enhances students' reading skills, but that phonemic awareness was necessary for students to benefit from phonics instruction. Comprehension is best taught explicitly using seven specific instructional strategies that the panel identified as effective. Teaching children to reason strategically and increasing their oral and print vocabularies were also key to improving comprehension. Research suggests technology as a promising tool for reading instruction. In all cases, the NRP stresses the complexity of teaching reading and the importance of teacher knowledge as necessary to student success.

- Include instruction in phonemic awareness, letter knowledge, reading, and spelling for an effective reading program.
- Provide phonemic awareness instruction prior to phonics instruction.
- Teach comprehension explicitly using identified strategies.
- Teach children to reason strategically and increase their oral and print vocabularies to improve comprehension.
- Use technology to teach reading.

The Pennsylvania School-wide Reading Improvement Framework for Primary Grades

This initiative is a statewide effort to disseminate information about effective research-based teaching practices on reading. For the past two years and again scheduled for Summer 2001, the Governor's Institute on Reading used this framework to train school teams to implement what research has shown are the missing instructional pieces: phonological awareness, alphabetic principle, and automaticity with the code. Direct teaching in these areas can prevent many reading problems in the primary grades and thereby reduce the numbers of children who are referred to special education. For more information, contact Janet Sloand-Armstrong at the Pennsylvania Training and Technical Assistance Network, Harrisburg office at (800) 360-7282.

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