

Phonics: Ten Important Research Findings

Countless research studies have been conducted on phonics instruction. Much of this research has focused on the usefulness of phonics instruction and the best ways to teach children about sound-spelling relationships. Below is a list of ten of the top research findings regarding phonics.

#1: Phonics Instruction Can Help All Children Learn to Read

All children can benefit from instruction in the most common sound-spelling relationships and syllable patterns in English. This instruction helps children decode words that follow these predictable sound-spelling relationships and syllable spelling patterns.

Phonics instruction is particularly beneficial for children at risk for learning difficulties — those children who come to school with limited exposures to books, have had few opportunities to develop their oral languages, are from low socio-economic families, have below-average intelligence, are learning English as a second language, or are suspected of having a learning disability. However, even children from language rich backgrounds benefit from phonics instruction (Chall, 1967). As Chall states "By learning phonics, students make faster progress in acquiring literary skills — reading and writing. By the age of six, most children already have about 6,000 words in their listening and speaking vocabularies. With phonics they learn to read and write these and more words at a faster rate than they would without phonics."

Phonics instruction is therefore an essential ingredient in reading instruction. The purpose of this instruction is to teach children how to read with accuracy, comprehension, fluency, and pleasure. The early ability to sound out words successfully is a strong predictor of future growth in decoding (Lundberg, 1984) and comprehension (Lesgold and Resnick, 1982). Weak decoding skills are characteristic of poor readers (Carnine, Carnine, and Gertsen, 1984; Lesgold and Curtis, 1981). Readers who are skilled at decoding usually comprehend text better than those who are poor decoders. Why this is so can be gleaned from the work of cognitive psychologists. They contend that we have a set amount of mental energy that we can devote to any task (Kahneman, 1973). Since decoding requires so much of this mental energy, little is left over for higher-level comprehension. As decoding skills improve and more and more words are recognized by sight, less mental energy is required to decode words and more mental energy can be devoted to making meaning from the text (Freedman and Calfee, 1984; LaBerge and Samuels, 1974).

In addition, successful early decoding ability is related to the number of words a reader encounters. That is, children who are good decoders read many more words than children who are poor decoders (Juel, 1988). This wide reading subsequently results in greater reading growth. Children not only learn more words, but they become more familiar with the common spelling patterns of English which, in turn, helps them decode longer words.

Phonics instruction also helps to get across the alphabetic principle (that the letters of the alphabet stand for sounds) by teaching the relationship between letters and the sounds they represent. Beginning readers learn better when their teachers emphasize these relationships (Chall, 1996).

#2: Explicit Phonics Instruction Is More Beneficial Than Implicit Instruction

According to Chall (1996), "systematic and early instruction in phonics leads to better reading: better accuracy of word recognition, decoding, spelling, and oral and silent reading comprehension." The most effective type of instruction, especially for children at risk for reading difficulties, is explicit (direct) instruction (Adams, 1990; Chall, 1996; Honig, 1995; Evans and Carr, 1985; Stahl and Miller, 1989; Anderson et al, 1985.). Implicit instruction relies on readers "discovering" clues about sound-spelling relationships.

Good readers can do this; poor readers aren't likely to. Good readers can generalize their knowledge of sound-spelling relationships and syllable patterns to read new words in which these and other sound-spellings and patterns occur. Poor readers must rely on explicit instruction.

Although explicit instruction has proved more effective than implicit instruction, the key element in the success of explicit phonics instruction is the provision of multiple opportunities to read decodable words (that is, words containing previously taught sound-spellings) in context (Stahl, Osborn, and Pearson, 1992; Juel and Roper-Schneider, 1985; Adams, 1990) and ample modeling of the application of these skills to real reading. In fact, students who receive phonics instruction achieve best in both decoding and comprehension if the text they read contains high percentages of decodable words. In addition, by around second or third grade, children who've been taught with explicit phonics instruction generally surpass the reading abilities of their peers who've been taught with implicit phonics instruction (Chall, 1996).

#3: Most Poor Readers Have Weak Phonics Skills and a Strategy Imbalance

Most poor readers have a strategy imbalance. They tend to overrely on one reading strategy, such as the use of context clues, to the exclusion of other strategies that might be more appropriate (Sulzby, 1985). To become skilled fluent readers, children need to have a repertoire of strategies to figure out unfamiliar words (Cunningham, 1990). These strategies include using a knowledge of sound-spelling relationships, using context clues, and using structural clues and syllabication strategies. Younger and less skilled readers rely more on context than other, often more effective, strategies (Stanovich, 1980). This is partly due to their inability to use sound-spelling relationships to decode words. Stronger readers don't need to rely on context clues because they can quickly and accurately decode words by sounding them out.

Unfortunately, children who get off to a slow start in reading rarely catch up to their peers and seldom develop into strong readers (Stanovich, 1986; Juel, 1988). Those who experience difficulties decoding early on tend to read less and thereby grow less in terms of word recognition skills and vocabulary.

A longitudinal study conducted by Juel (1988), revealed an 88% probability that a child who is a poor reader at the end of first grade would still be a poor reader at the end of fourth grade. Stanovich (1986) refers to this as the "Matthew Effect" in which the "rich get richer" (children who are successful decoders early on read more and therefore improve in reading), and the "poor get poorer" (children who have difficulties decoding become increasingly distanced from the good decoders in terms of reading ability).

#4: Phonics Knowledge Has a Powerful Effect on Decoding Ability

Phonics knowledge affects decoding ability positively (Stanovich and West, 1989). Early attainment of decoding skill is important because this accurately predicts later skill in reading comprehension (Beck and Juel, 1995).

One way to help children achieve the ultimate goal of reading instruction, to make meaning of text, is to help them achieve automaticity in decoding words (Gaskins et al, 1988). Skilled readers recognize the majority of words they encounter in text quickly and accurately, independent of context (Cunningham, 1975-76; Stanovich, 1984). The use of graphophonic cues (knowledge of sound-spelling relationships) facilitates word recognition abilities. In fact, a child's word recognition speed in first grade was found to be a strong predictor of reading comprehension ability in second grade (Lesgold and Resnick, 1982; Beck and Juel, 1992).

However, the inability to automatically recognize frequently encountered words affects reading in the following ways (Royer and Sinatra, 1994):

1. Since words can be stored in working memory for only a limited amount of time (approximately 10–15 seconds), slow decoding can result in some words "decaying" before a meaningful chunk of text can be processed.
2. Devoting large amounts of mental energy to decoding words leaves less mental energy available for higher-level comprehension. This can result in comprehension breakdowns.

#5: Good Decoders Rely Less on Context Clues Than Poor Decoders

Good readers rely less on context clues than poor readers do because their decoding skills are so strong (Gough and Juel, 1991). It's only when good readers can't use their knowledge of sound-spelling relationships to figure out an unfamiliar word that they rely on context clues. In contrast, poor readers, who often have weak decoding skills, overrely on context clues to try to make meaning of text (Nicholson, 1992; Stanovich, 1986). Any reader, strong or weak, can use context clues only up to a certain point. It has been estimated that only one out of every four words (25%) can be predicted using context (Gough, Alford, and Holley-Wilcox, 1981). The words that are the easiest to predict are function words such as *the* and *an*. Content words — the words that carry the bulk of the meaning in a text — are the most difficult to predict. Researchers estimate that content words can be predicted only about 10% of the time (Gough, 1983). A reader needs to use his or her knowledge of phonics (sound-spelling relationships) to decode these words.

"The whole word method (meaning emphasis) may serve a student adequately up to about second grade. But failure to acquire and use efficient decoding skills will begin to take a toll on reading comprehension by grade 3." Jeanne Chall, 1996

#6: The Reading Process Relies on a Reader's Attention to Each Letter in a Word

Eye-movement studies have revealed that skilled readers attend to almost every word in a sentence and process the letters that compose each word (McConkie and Zola, 1987). Therefore, reading is a "letter-mediated" rather than a "whole-word-mediated" process (Just and Carpenter, 1987). Prior to these findings, it was assumed that readers did not process each letter in a word, rather recognized the word based on shape, a few letters, and context.

Research has also revealed that poor readers do not fully analyze words; for example, some poor readers tend to rely on initial consonant cues only (Stanovich, 1992, Vellutino and Scanlon, 1987). Therefore, phonics instruction should help to focus children's attention on all the letters or spellings that make up words and the sounds each represents by emphasizing the full analysis of words. In addition, phonics instruction must teach children strategies to use this information to decode words. This attention to the spelling patterns in words is necessary for the reader to store the word in his or her memory. It also helps the reader to become a better speller because the common spelling patterns of English are attended to to a greater degree and thereby more fully learned (Ehri, 1987).

#7: Phonemic Awareness Is Necessary for Phonics Instruction to Be Effective

Before children can use a knowledge of sound-spelling relationships to decode words, they must understand that words are made up of sounds (Adams, 1990). Many children come to school thinking of words as whole units — *cat*, *dog*, *run*. Before they can learn to read, children must realize that these words can be broken into smaller units — and sounded out. Phonemic awareness is the understanding, or insight, that a word is made up of a series of discrete sounds. Without this insight, phonics instruction will not make sense to children. Some students with weak phonemic awareness skills are able to make it through the first couple years of reading instruction by memorizing words. This strategy breaks down when the number of

unique words in text increases in grades three and up. Therefore, if weak phonemic awareness skills are not detected and corrected, these students may enter the intermediate grades with a very serious reading deficit.

#8: Phonics Instruction Improves Spelling Ability

Reading and writing are interrelated and complementary processes (Pinnell, 1994). Whereas phonics is characterized by putting together sounds to form words that are printed, spelling involves breaking down spoken words into sounds in order to write them. To spell, or encode, a word a child must map a spelling onto each sound heard in the word.

Spelling development lags behind reading development. A word can generally be read before it can be spelled. The visual attention a child needs to recognize words is stored in his or her memory. This information — the knowledge of the spelling patterns of English, also known as orthographic knowledge — is used to spell. Spelling, however, requires greater visual recall than reading and places higher demands on memory.

Good spellers are generally good readers because spelling and reading share an underlying knowledge base. Poor readers, however, are rarely good spellers. Phonics is a particularly powerful tool in improving spelling because it emphasizes spelling patterns, which become familiar from reading. Studies show that half of all English words can be spelled with phonics rules that relate one letter to one sound. Thirty-seven percent of words can be spelled with phonics rules that relate groups of letters to one sound. The other thirteen percent must be learned by memorization. Good spellers have not memorized the dictionary; they apply the phonics rules they know and have a large store of sight words.

Writing, in turn, supports a child's reading development because it slows the process by focusing the child's attention on how print works. Poor spellers experience difficulties in both writing and reading. Poorly developed spelling ability also hinders vocabulary development (Adams, Treiman, and Pressley, 1996; Read, 1986).

#9: A Teacher's Knowledge of Phonics Affects His or Her Ability to Teach Phonics

A teacher's knowledge of phonics has a strong effect on his or her ability to teach phonics (Carroll, 1990; Moats, 1995). This knowledge of the English language enables the teacher to choose the best examples for instruction, to provide focused instruction, and to better understand students' reading and writing errors in relationship to their developing language skills. I highly recommend that all teachers take a basic course in phonics or linguistics to gain further insights into our language that can be used in the classroom in productive and purposeful ways.

#10: Knowledge of common syllable patterns and structural analysis (affixes, roots) improves students' ability to read, spell, and learn the meanings of multisyllabic words.

For many children, reading long words is an arduous task. Explicit instruction in the six common spelling patterns, the most common syllable types (e.g., VCe, VCCV,), prefixes, suffixes, roots, and word origins helps students recognize larger word chunks that makes decoding easier and aids in figuring out a word's meaning. For example, it may be efficient for a student to decode text containing simple CVC words such as *cat* and *ran* sound by sound, it is not efficient to decode text containing words such as *transportation* and *unhappy* sound by sound. Rather, it is more efficient to recognize common word parts such as *trans*, *port*,

tion, un, and happy and blend these larger chunks to sound out the word.

Here are some helpful articles and videos about phonics . . .

<http://teacher.scholastic.com/reading/bestpractices/phonics/questionstranscripts.htm>

<http://www.scholastic.com/teachers/article/teaching-phonics-wiley-blevins>

<http://www.scholastic.com/teachers/article/frequently-asked-questions-about-phonics>

<http://teacher.scholastic.com/clifford1/resfound.htm>

Her are some of my favorite web sites . . .

Scholastic (for Parents): www.scholastic.com/parents/

Scholastic (for Teachers): <http://www.scholastic.com/teachers/>

Reading Rockets (for Parents and Teachers): <http://www.readingrockets.org/>

The Society for Children's Book Writers and Illustrators (SCBWI): <http://www.scbwi.org/>

Disney's Family Fun: <http://familyfun.go.com/>

Q & A

Do you have a question for me about teaching your child to read? If so, email me and I will post your question and answer.