

Short Communication

Have We been Wrong about Phonics?

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The best way to teach reading in English has been a matter of dispute for the last century. Should children be taught by whole language and look-and-say methods of visually recognizing words, or should they be taught phonics so the children could sound out words? A compromise of sorts was reached with balanced reading, and today most children get instruction in phonics within a rich literacy program. But as the Nations Report Card shows, reading scores have not improved and we are still behind the other developed countries in reading, and a large gap remains between poor and middle class children. It is the contention of this paper that a solution to our reading problem depends on a better understanding of two factors: the individual differences among children and the nature of the English language. This paper further supposed that the understanding of these factors will lead to the conclusion that phonics instruction wastes children's valuable school time. Children who learn to read easily do not need phonics instruction and children who are poor with phonics, remain poor despite instruction.

First the nature of the English language is considered. Reading has been defined as language written down, and writing systems vary widely. Chinese offers a maximum contrast with the alphabetic languages. Chinese writing descended from picture writing and today consists of thousands of logographs or visually complex characters. Chinese children spend many school years learning to read these logographs. In the alphabetic languages the 26 or so letters can be quickly learned. Rayner et al. discussed the advantages of an alphabetic system in which sounds are associated with individual letters as being more efficient than reading in logographic languages [1]. This may be true for the regular European languages but less true for the irregular English. One of the most surprising findings in recent years revealed the difficulty English speaking children have in acquiring reading in comparison with other European children. Seymour et al. studied children from 14 European languages and found that children from the transparent languages were reading words and nonwords at ceiling levels at the end of the first year of instruction, while English children were reading words with a success rate of 34% correct for words and 29% for nonwords, also referred to as pseudowords [2]. Nonwords or pseudowords are letter strings that could be words, but are not, such as "vap", "elot" and "bina". Ziegler and Goswami in 2005 developed the grain size theory to account for the difference between English and the other languages [3]. In the regular European languages one letter matches one sound and children quickly learned small letter-sound units, and became able to read words and pseudowords. But in the irregular English one letter is associated with several sounds, such as the "a" in hat, bar, was, saw, and play, and the "o" in pour, come, hot, and stove, and children acquire reading by learning large letter units and whole words. English speaking children are even more delayed in nonword reading and most English speaking children do not read pseudowords until the third or fourth grades [2,3]. Ziegler and Goswami believed pseudowords were read by small grain sizes and were easily read in regular languages, but in English children had to phonologically isolate small grain size units within words [3]. Gibson came to the same conclusion about pseudowords and supposed they developed by a process of perceptually discriminating small lettersound units in words [4]. Frith proposed that beginning readers were in a logographic stage and recognized words visually [5]. Teaching consisted of showing children words and telling them the meanings. A second stage occurred when children learned letter-sound relationships and become able to read pseudowords. A key indicator of reading problems and dyslexia in the English language is the inability to read pseudowords [6].

It has been known for some time that children varied greatly in their ability to acquire reading, and recently three important predictors of reading have been identified. All three predictors can be identified in young pre-reading children. One is vocabulary which is closely related to social class. Poor children know many fewer words than middle-class children [7]. Vocabulary development is largely due to environmental conditions, while the next two predictors have to do with neurological factors. These are phonological awareness and rapid autonomous naming. Phonological awareness is measured by a discrimination task. A child is told three words and is ask to say the word that does not sound like the others, (cat, ball, hat) or has a different ending sound, (bowl, kid, tail). While it was easily understood that discriminating language sounds was important in oral based languages, the reason that rapid autonomous naming predicted reading ability has only recently been understood. This task presents pictures of common objects on a chart and assessing how quickly the child can name the objects. Dehaene theorized that an object perception area of the primate brain had retained plasticity and was recycled or converted to respond to symbols, letters and words, and the connections between this area and our language area permitted the development of reading in our species [8,9]. Lervag and Hulme supposed that the RAN object naming task tapped this area in prereading children [10]. They believed that rapid automatic naming assessed children's abilities to relate visually recognized stimuli to language responses, and that the neural integrity of this area predicted reading acquisition. Wolf and Bowers related both phonological awareness and rapid autonomous reading to reading development [11,12]. The large majority of children were high in both abilities quickly learned to read. Children that were high in one ability and low in the other learned to read more slowly, and children low in both abilities had a great deal of difficulty with reading and were called the double-deficit or dyslexic readers. As per Cronin himself a number of studies confirmed these results [13].

Meaning based whole language procedures dominated school curriculums until the middle of the last century [14]. This changed with the publication of "Why Johnny Can't Read" by Rudolph Flesch [15]. He argued that children should be taught the 44 letter-sound combinations of English and then they could read all the words. "Teach the code and let them read" works quite well in very regular German, but not in the irregular English [16]. Many reading theorists maintained that phonics

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instruction was necessary for reading words, and lack of phonics training was the reason many children read poorly. This became a political issue and the federal government sponsored two extensive studies that attempted to show that phonics training was necessary for reading development. The National Reading Panel (2000) study found small differences between the experimental groups who received phonics training and control groups who did not receive this training and concluded that phonics should be taught to all children. Even scientifically based studies have flaws, and a criticism directed at this study was that the comparisons groups were not tested for phonological awareness and rapid autonomous abilities and when more children with high abilities were assigned to a group, this group was destined to make more rapid progress. The Reading First study (2003-2008) was a very ambitious program and funds were allotted to states to sponsor reading programs that were dominated by phonics programs. There were many difficulties in carrying out this study and when it was found that schools with phonics instruction did not improve comprehension in comparison with schools that did not have phonics, many theorists blamed these negative results on program difficulties.

Although he was wrong about the number of sound-letter combinations in the English language, Flesch's book made reading a political issue. There are many more sound-letter cominbinations than the 44 he identified. Verhoeven found that there are 500 syllables in Dutch and German and in English there are 12,000 [17]. Snow and Juel concluded that of the many hundreds of the sound-letter regularities that exist in English, phonics programs in schools rarely taught more than 90 rules [18]. This indicated that children are capable of inducing and generalizing sound-letter units from reading words and they do not require phonics.

But what about the poor readers? Don't they need phonics? Apparently not. In the first reading stage when children are recognizing words as logographs, the children destined to be poor readers learn fewer words [19]. In stage two double-deficit children learn fewer letter-sound units, and are very poor with pseudowords. Longitudinal studies of children with reading problems found they became poorer with pseudowords in comparison with other children as they grew older [13,20]. Bruck compared college students with a history of reading problems with typically developing students [21]. Both groups had the same ability to read words but the students with a history of reading problems scored much lower in nonword reading. These college students presumably from middle class families and who had good vocabularies remained poor in pseudoword reading but were able to visually recognize words and learn concepts and become successful college students.

Lack of vocabulary knowledge is characteristic of children in poverty, and poses the biggest threat for our goal of becoming a nation of readers. Poor children come to school knowing many fewer words than middle-class children and the gap grows larger as children advance through elementary school [22]. Lack of vocabulary words is a direct threat to self-teaching. Share supposed that there were too many words in the English language for teachers to present them in reading lessons [23]. He supposed children in after second grade learn most words by reading books and other textual material. As they encounter an unknown word the children visually study the word. If the child is in stage two, and knows a few sounds of the letters in the word, and the word is in the child's vocabulary, the child is likely to use sentence context to decipher the word and add it to a list of familiar words. When the child does not know the meaning of the word even when the child knows the sound of some letters, sentence context is unlikely to be helpful, and the child cannot decipher the word. Self-teaching is less likely to occur in children with poor vocabularies.

Teaching words and their meanings seems to be the most important task for reading teachers. The typically developing children with good vocabularies easily intuit the sounds of letters from reading words and readily engage in self-teaching. Children with poor vocabularies need more instruction for a longer time and double-deficit readers need many years of instruction. It is the contention of this paper that phonics instruction is not necessary for any of these children and is a waste of school time. What is necessary is that more resources be designated for more teachers to teach words to children.

References

- Rayner K, Foorman BR, Perfetti CA, Pesetsky D, Seidenberg (2001) Psychological science in the Public Interest 2: 31-74.
- Seymour PHK, Aro M, Erskine JM (2003) Foundation literacy acquisition in European orthographies. British Journal of Psychology 94: 143-174.
- Ziegler JC, Goswami U (2005) Reading acquisition, developmental dyslexia, and skilled reading across languages: A psycholinguistic grain size theory. Psychological Bulletin 131: 3-29.
- Gibson EJ (1971) Perceptual learning and the theory of word perception. Cognitive Psychology 2: 351-368.
- Frith U (1985) Beneath the surface of developmental dyslexia. In: Patterson KD, Marshall JC, Coltheart M (eds.) Surface dyslexia: Neuropsychological and cognitive studies of phonological reading 301-330.
- Rack K, Snowling MJ, Olson R (1992) The nonword reading deficit in developmental dyslexia: A review. Reading Research Quarterly 27: 29-53.
- 7. Hart B, Risley T (1995) Meaningful differences. Baltimore: Brookes.
- 8. Dehaene S (2009) Reading in the Brain. New York: Viking.
- Dehaene S (2005) Evolution of human cortical circuits for reading and arithmetic. The "neuronal recycling" hypothesis. In Dehaene S, Duhamel JR Hauser M, Rizzolatti G (Eds.). From monkey brain to human brain Cambridge, MA: MIT press 133-157.
- Lervag A, Hulme C (2009) Rapid Automatized naming (RAN) taps a mechanism that places constraints on the development of early reading fluency. Psychological Science 20: 1040-1048.
- Wolf M, Bowers PG (1999) The Double-Deficit Hypothesis for the developmental dyslexias. Journal of Educational Psychology 91: 1-24.
- Bowers PG, Ishaik G (2003) RAN's contribution to understanding reading disabilities. In HL Swanson, KR Harris, S Graham (Eds.), Handbook of learning disabilities, New York: Guildford Press 140-157.
- Cronin V (2013) RAN and the double-hypothesis. Journal of Learning Disabilities 46: 182-190.
- Adams MJ (1990) Beginning to read: Thinking and learning about print. Cambridge, MA: MIT Press.
- Flesch R (1955) Why Johnny can't read And what you can do about it. New York: Harper & Row.
- Wimmer H, Hummer P (1990) How German speaking first graders read and spell: Doubts on the importance of the logographic stage. Applied Psycholinguistics 11: 349-386.
- 17. Verhoeven L (2012) how the brain learns to read. Paper presented at the meeting of SSSR, Montreal, Quebec, Canada.
- Snow CE, Juel C (2005) Teaching children how to read: What do we know about how to do it? In: Snowling MJ, Hulme C (eds.) The science of reading: A handbook Malden, MA: Blackwell 501-520.
- Reitsma P (1983) Printed word learning in beginning readers. Journal of Experimental Child Psychology 36: 321-339.
- 20. Snowling MJ, Goulandris N, Defty N (1996) A longitudinal study of reading

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development in dyslexic children. Journal of Educational Psychology 88: 653-669.

- 21. Bruck M (1992) Persistence of dyslexics' phonological awareness deficits. Developmental Psychology 28: 874-886.
- 22. Biemiller A (2006) Vocabulary development and instruction: A prerequisite for school learning. In: David K Dickinson, Susan B Neuman (eds.) Handbook of early literacy research New York: Guilford Press 2: 41-51
- 23. Share DL (1995) Phonological recoding and self-teaching: Sine qua non of reading acquisition. Cognition 55: 151-218.